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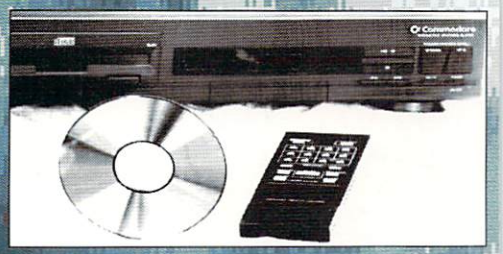

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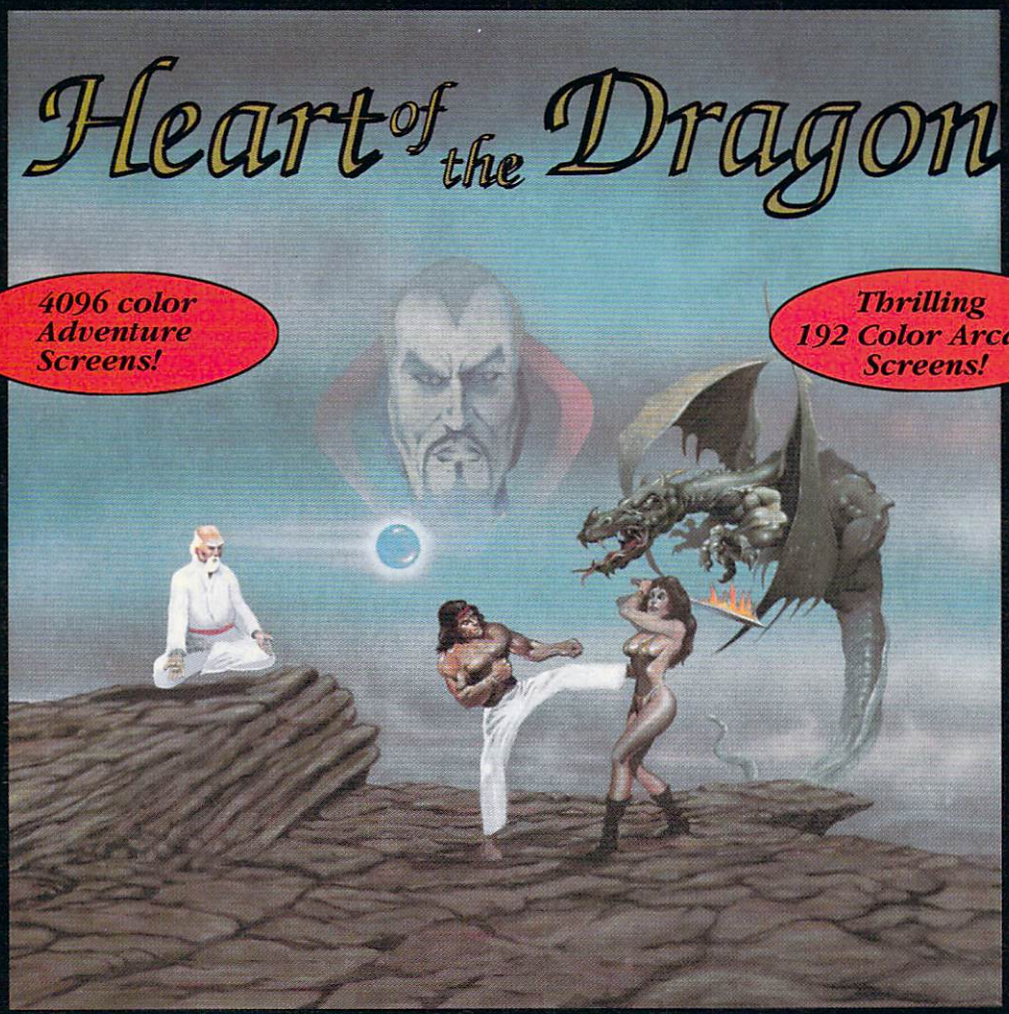

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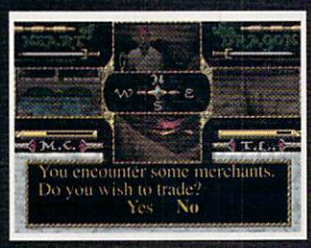

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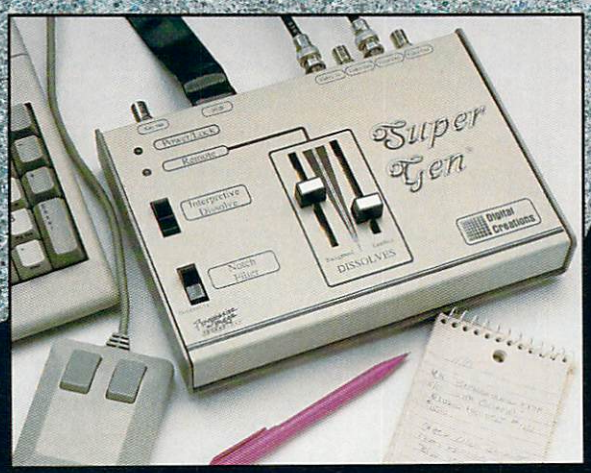

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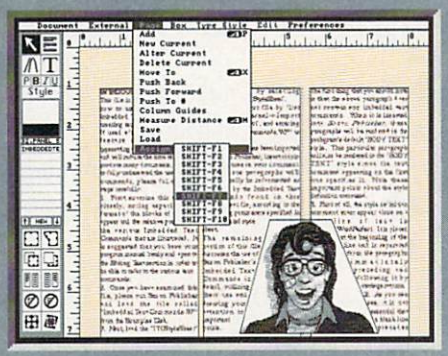

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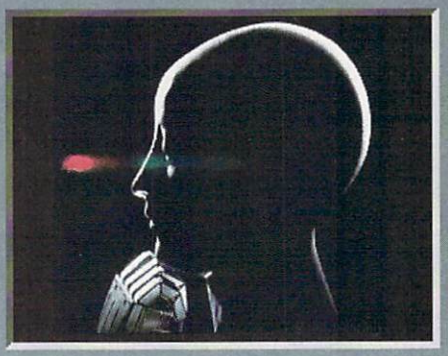

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Cover Illustration: by Larry Keenan

.info strives to be a clear voice for Amiga users, and a showcase for the talented people and exceptional products of the Amiga computer community.

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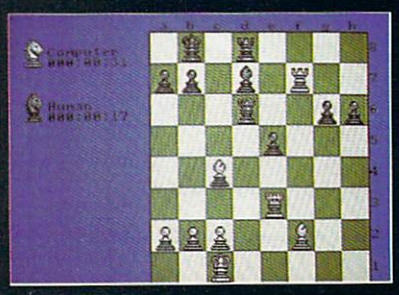

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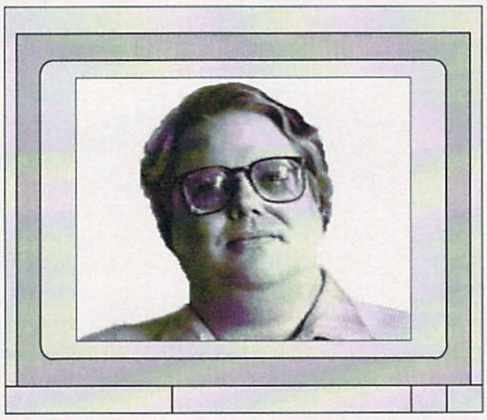

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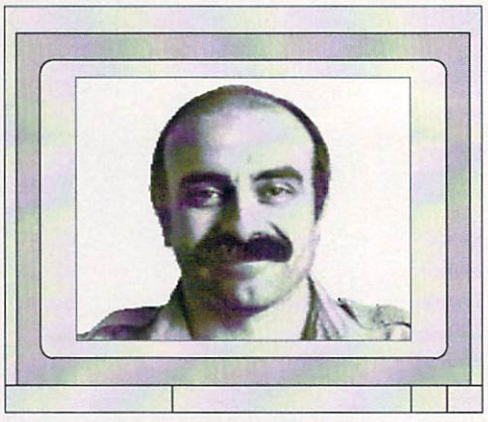


CDTV - PRETTY BABY?

One thing the Amiga Developer's Conference in Atlanta made absolutely clear: the future of Commodore lies in two pieces of hardware, the Amiga 3000 and a little black box called CDTV. The Amiga 3000 we already know and love. It's a super Amiga with super speed and super power. (For details, see our report in issue #31.) CDTV is something else again. In fact, CDTV is difficult to categorize at all. The initials stand for "Commodore Dynamic Total Vision," but it's obvious that CBM's marketing team picked them because they want the electronics-buying public to identify this little black box with two technologies near and dear to them: audio Compact Disc and television.

CDTV (called the "Baby" while it was in development) looks like any CD audio player. Its infrared remote is the illegitimate child of a CD remote and a Nintendo controller. CDTV's backside looks more like the back of an Amiga than anything else, with connectors for all kinds of computer peripherals like a floppy drive, RGB monitor, printer, modem, mouse, joystick, and keyboard. The brain of CDTV is a one meg Amiga, though the operating system is different. CDTV will do standard Amiga graphics and sound, but you won't see pull-down menus, sizable windows, or multitasking in CDTV software.

So CDTV is the first CD-ROM based personal computer, right? Well, sort of. Though that's what the Baby is, it's not what the Baby will be sold as. (The consumer won't even get the standard computer interface stuff - keyboard, disk drive, and mouse - unless he buys a separate upgrade kit.) Nolan Bushnell and company at Commodore are targeting this at the "couch potato" market, and the word "computer" is anathema. They believe your average CD and VHS junkie wouldn't go near a computer if you paid him, much less buy one to stack up in his den. But CDTV plays audio CDs, and it plays better games than a Nintendo, which come on nifty-looking CDs instead of clunky cartridges, and *that* he understands. All of this for "under $1000" (about $800 street price, we figure).

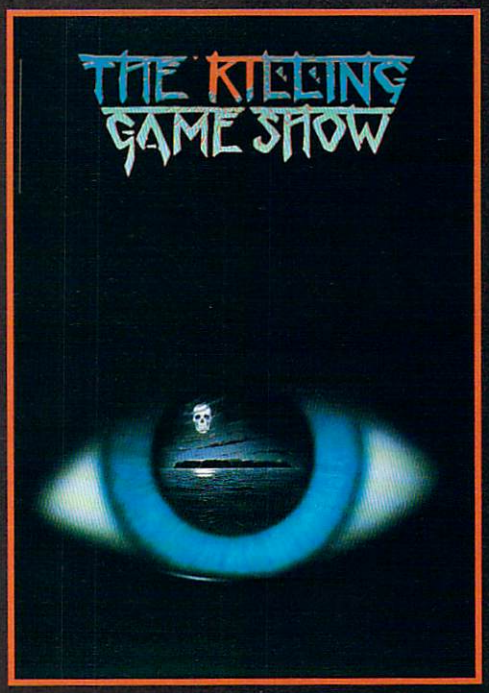
Nolan Bushnell and Commodore's "Baby" - CDTV.

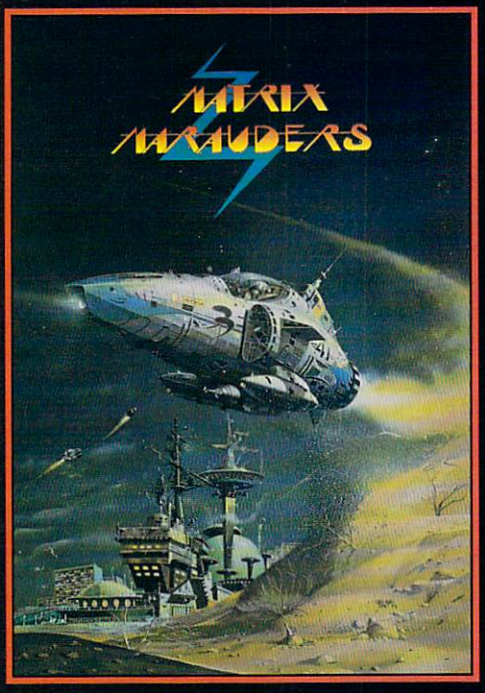
We think CDTV is an interesting technology, and we'll be covering it as it develops. But we do think it's time to ask some important questions. First of all, people will buy a $99 Nintendo, or a $250 VCR, or a $189 CD player, but for most folks "$800" means a refrigerator, not a home entertainment machine. Are there really enough people out there with that kind of disposable income to make CDTV fly? Then too, a CDTV disk holds about 550 megabytes. Does anyone have any idea how much data that is? For a developer to take full advantage of that kind of storage, he's going to have to spend a *lot* of time in development. Digitizing 10,000 to 20,000 images could take several man-years, and CDTV needs images in Amiga format. It won't play off-the-disk video like a videodisc player. Finally, there is the CDTV's limitation of not being able to do full-screen, full-motion video. Though you and I understand the technical limitations involved, will Joe Consumer be so forgiving? Time will tell. We think the future of CDTV lies in the hands of the developers and we're looking forward to seeing the first wave of software for this machine.

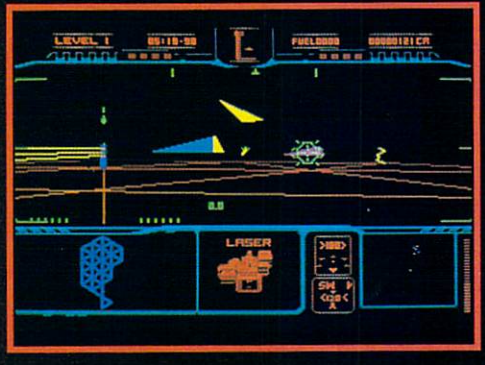
- Mark & Benn

GOODBYE, ROB

Sad news reached us as we went to press - Rob Peck has passed away. Rob headed the original Amiga documentation team and was the author of the *Amiga Hardware Manual, Amiga ROM Kernal Reference Manual, the Programmer's Guide to the Amiga*, and *The Amiga Companion*. He was also one of the kindest, gentlest souls we have ever had the privilege to meet, and his loss will be sorely felt by his family, his friends, and the Amiga community.







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Thanks.

TIME TO RENEW?

I am pleased to hear that I will now receive my favorite magazine every month instead of every other month. Twice the *.info* is happy news, indeed. Which brings me to my questions: How will current subscriptions be handled? How many more issues will I receive before it's time to renew? Keep *.info* great, and keep *.info* coming!

- BEN RICH (PLink)

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ON TO THE REAL NEWS

What great news! Monthly and all-Amiga! Tremendous! I'm sure you'll catch a lot of flack for dropping the 8-bit computers. However, the world HAS passed them by and y'all were unflagging in your support long after other magazines dropped them. Indeed, long after there was any real NEWS to report. I still have a soft spot in my heart for my C64, and I will remember it fondly. But I wouldn't go back to it for anything. I'm sure lots of people are still using C64s and C128s, and will happily continue using them forever. But *.info* cannot - and should not - tie itself to the destiny of a dying computer. In years to come, when the Amiga itself is obsolete (gasp!) I hope *.info* will still be around, and will have the courage to drop the Amiga for its successor.

- Don Sakers (CompuServe)

The Amiga is the wave of the future with many exciting possibilites raised by burgeoning vertical markets such as music, 3D, multimedia, and video. The majority of our readers have told us that the Amiga is the direction in which they're headed, so we have to follow in order to keep leading the way. Here's to the future of Commodore computing!

- Mark & Benn

FAITHFULLY DEVOTED TO C64

I have faithfully purchased your magazines since the beginning. I remember well when you produced it on the 64 or 128. What made it so great was knowing that people just like me were producing something just for me. Are you forgetting who built your magazine into what it is today? I do have an Amiga and welcome your support of that computer but still consider it an insult for you to drop coverage of my favorite, the 64/128. I wish you the best with your new format, but unfortunately, I won't be one of your readers. When you dropped the 64/128 coverage, you dropped me too. We who are still devoted to the 64 and have faithfully supported those who have offered support for it, have to go where the support is.

- SKIZ (PLink)

It is with great sadness that we bid adieu to those stalwart little machines that served us so well for so long. Dropping coverage of the 8-bit machines was not a decision we made lightly, but ya gotta change with the times or get left behind. We're still producing .info *with the equipment we write about and are still having a blast doing it.* .info's *move to an all-Amiga format is a reflection of the natural evolution of this ever-changing technology, and of economic necessity. The market just isn't there to support a 64/128 publication. We know, we tried. So did Ahoy!, so did Commodore Magazine, so did Transactor. It's unfortunate, however, that you've misconstrued this as an "insult." It's nothing personal, it's just the way it is.*

- Mark & Benn

MISSING .Info

I've been a reader of your magazine for a hellava long time. I bought my first issue the day I bought my C64 in '85. I've always enjoyed your magazine and look forward to reading it. The problem is that I can't seem to find it anywhere lately. Have you disappeared or are you just not sending your mag to California? I don't even own the C64 any more, I have a Macintosh. Have you guys ever considered switching systems and jumping on the Mac bandwagon?

- Frank (CompuServe)

Never considered it even once. We must congratulate you, though: Your current questionable taste in computers is more than made up for in your fine choice of reading material. In answer to your second problem, it only seemed *as if* .info *had disappeared. From here on out, you'll be able to find the new all-Amiga, monthly* .info *in all the places you did previously, even in California. Thanks for your support!* **- Mark & Benn**

Continued on page 58...

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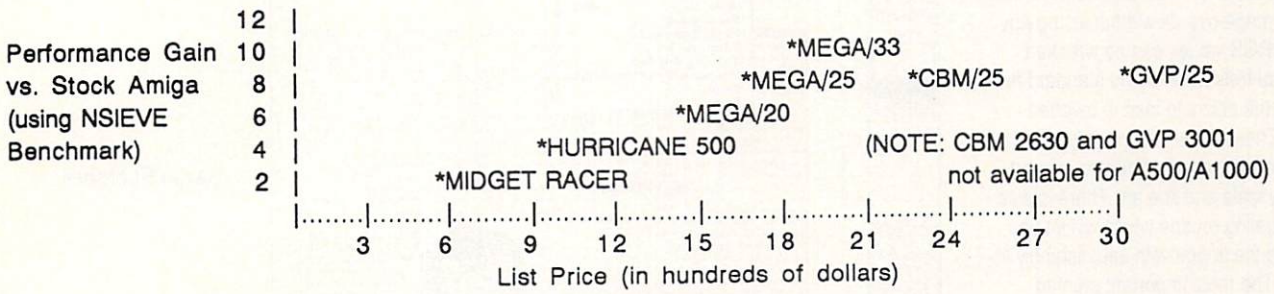

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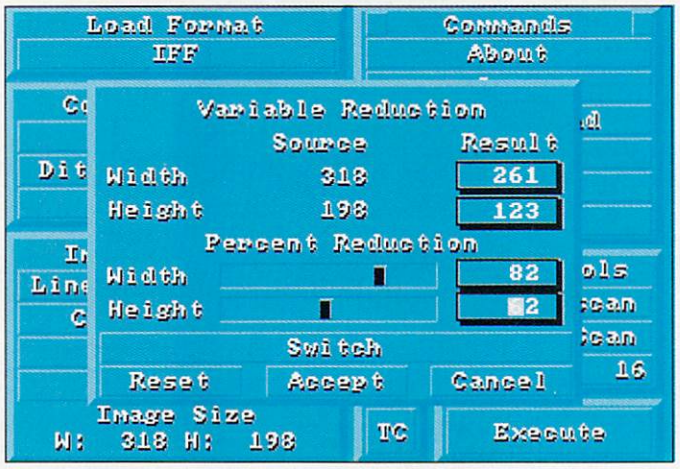
New Products



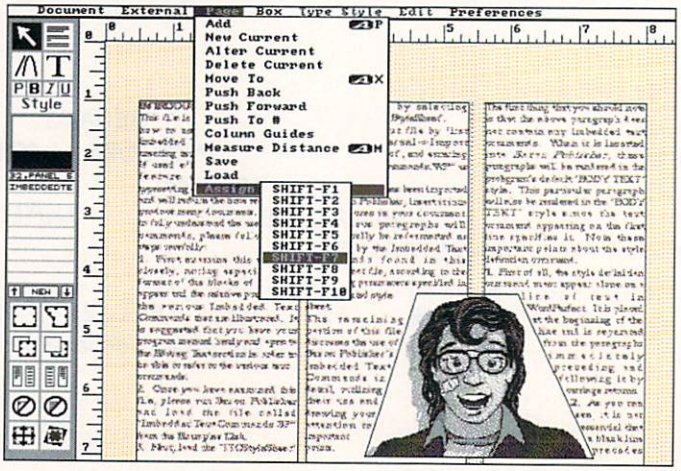
ASDG's Art Department image processing software

Software Image Fixing

Those of you who have used *ASDG*'s color scanners have doubtless been impressed by the quality and utility of the image-processing software. Now Perry Kivolowitz and his fearless band of programmers have taken the ideas used in the scanner systems, added a knicknack or two, and released **The Art Department**. It will load in an extraordinary range of image types, from monochrome to HAM to the more exotic A-HAM and Dynamic HiRes. The loader itself is actually a separate, modular program, which means that as new graphic file formats are required, ASDG will release loaders for them. (ASDG is selling the loaders separately: GIF, *Turbo Silver, Sculpt 4D, DeluxePaint II Enhanced, Rendition,* and *Targa* formats 1, 2, 9, & 10 are currently available at costs ranging from $19.95 to $39.95.) Once loaded, and provided you have enough memory, *The Art Department (TAD)* converts the image to 24 bit data and it's on this that *TAD* works its image enhancing magic. Brightness and contrast can be adjusted, including an invaluable Gamma adjustment which can brighten an image overall without losing any detail. Individual RGB values can be tweaked and the palette controls have all the standard features, along with the ability to load in palettes from other files. There are six different types of dithering provided, as well as utilities to convert the image to grayscale and line art. There is also an outstanding scaling routine which will let you reduce or enlarge the image with astonishingly little loss of detail. The most important point to make about *The Art Department* is that it works on 24-bit data. That means there's no fringing when scrolling HAM images, and it makes *TAD* particularly useful for 3D rendering. For example, the individual RGB files from *Sculpt 4D* can be loaded in and rendered within *TAD* with a significant increase in speed and image quality. *TAD* doesn't care where the data comes from; it will render any graphic data you provide for it. That in itself is a major advance in Amiga image processing. Probably the most obvious use for *TAD* is in conjunction with ASDG's scanners and *ReSep* for desktop publishing. The combination of all three packages gives Amiga desktop publishers the equal or better of anything available for any other platform. *The Art Department* retails for $89.95. ASDG, 925 Stewart St., Madison, WI 53713. 608-273-6585.

Angles Too?

The eagerly awaited **Saxon Publisher** has arrived and looks like a strong contender for the top spot among Amiga page layout software packages. It's laid out in four basic sections that take you easily through the whole layout process. The lowest level lets you set up the size and shape of the page, define the boxes where text and graphics will appear, and even add a background texture if you want. (Let's not get carried away with this, people. We don't want to see any pages covered in text on a background of little tiny Amigas.) Text mode is actually a rudimentary wordprocessor that's fine for a little light editing, but isn't anything to do any serious writing with. The next level operates on paragraphs (and in many cases the entire text), letting you adjust such things as typeface, leading, kerning, and the like. The last section includes graphics tools, giving you tools to add lines, boxes, circles, etc. to your page. Each of these sections has many other functions and, taken as a whole, there doesn't seem to be much *Saxon* won't do. Probably the most important feature of *Saxon Publisher* is its text and style tagging. What this means is that you can define the style (typeface, dropshadows, color, attributes, dimensions, etc.) you want to use for a particular block of text, put a name on it, and never have to go through the process for that style again. It's sort of like defining a macro, and groups of tags can be saved and loaded like macros. In the same vein is the ability to assign pages and boxes to function keys. You can define the pages and boxes you use repeatedly, assign each



Saxon Publisher

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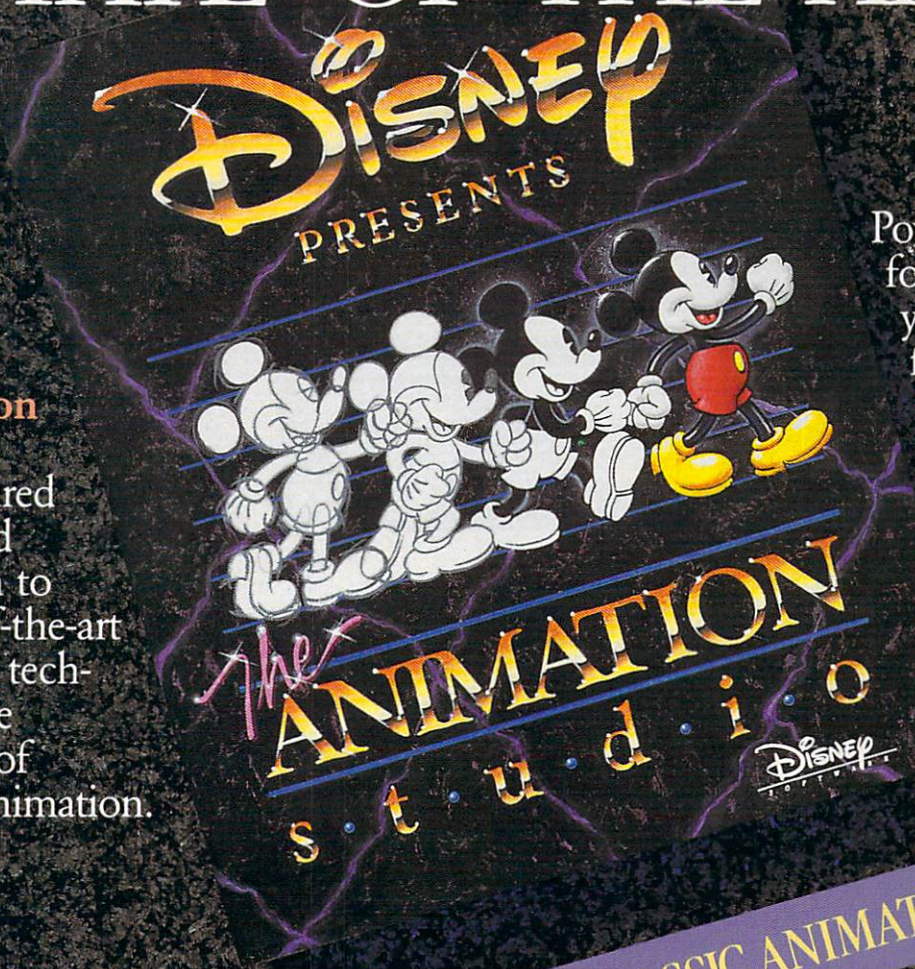

The Animation Studio is the only full-featured animation and paint program to utilize state-of-the-art cel animation techniques that are characteristic of Disney-style animation.

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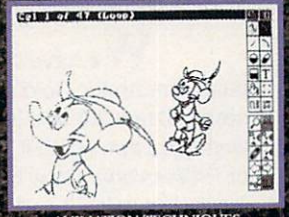

ANIMATION TECHNIQUES

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512K required. 1 meg recommended.

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New Products

Main editing window from Zuma Group's TV*Show superimposed over a gratuitous graphic

one to a function key, and then call them up as needed with a single keypress. Features like this not only make *Saxon* convenient to use, but greatly increase the speed with which pages can be produced. Incidentally, the contents of boxes, including text, can be rotated, scaled, and skewed on both x and y axes. The onscreen display comes in two flavors: bitmapped and outlined. The bitmap display is the fastest, but is jaggy, while the outlined version gives a very accurate approximation of what your final document will look like, but it is very slow on the redraw. *Saxon* only offers PostScript output, but with a package like this, that's to be expected. Pages can be output as black & white proofs, full color, or four-color separations. *Saxon Publisher* carries a price tag of $450.00 and comes from *Saxon Industries*, 14 Rockcress Gardens, Nepean, ON Canada K2G 5A8. 613-228-8043.

New Draw

We have been waiting with bated breath for *Gold Disk*'s **Professional Draw 2.0** and it looks like the wait has been worth it. The actual look of *Professional Draw* hasn't changed much, but using it certainly has. The biggest complaint about the initial version was its sloth-like speed, but a cursory look at 2.0 showed it to be much quicker, though not yet exactly cheetah-esque. (Gold Disk claims a five-fold increase over 1.0.) The structured drawing package has all the required features like bezier curves, lines, boxes, naming and scaling of objects (which is the whole idea of structured drawing), and other utilitarian functions. There are three new dithering modes tailored to the work you're doing and the type of monitor you're using, including a Smooth display for *flickerFixer* and A3000 users, and a new Flicker-Free mode that minimizes the jitter on an interlaced screen. There is also a new Auto-Tracing mode, which will automatically trace over any bitmapped image and produce a structured drawing from it. Another interesting feature is the ability to blend and morph objects; for example, a star can be warped into a circle, with the program automatically generating the transitional images.

The latest incarnation of Professional Draw, version 2.0

Sounds keen. Cost is $295.00. PO Box 789, Streetsville, Mississauga, ON Canada L5M 2C2. 416-828-0913.

Showing Off

Ease of use combined with an intuitive interface are the main points of *Zuma Group*'s latest presentation software, **TV*Show Version 2**. The completely mouse-driven package lets you combine graphic screens, brushes, ANIM animations, 8SVX sound, and Amiga speech into a complete presentation. Over 40 transitions are available to liven the show, and mouse and/or keyboard events can be added (for example, clicking a mousebutton to move on to the next section of the presentation), and color cycling is also supported. The package also includes a presentation detailing its own features, which raises a variation on the old question - which came first, the presentation software or the presentation? $99.95 from the Zuma Group, 6733 N. Black Canyon, Phoenix, AZ 85015. 602-246-4238.

Net Work

Networking is just coming into being in the Amiga arena and *Syndesis* is one of the pioneers. They have released **TSSnet**, which enables an Amiga to become part of any Ethernet network, thus bringing it into the mainstream of VAX, DEC, and Unix computing. *TSSnet* provides a VT100 terminal emulator, and can be used to run the X

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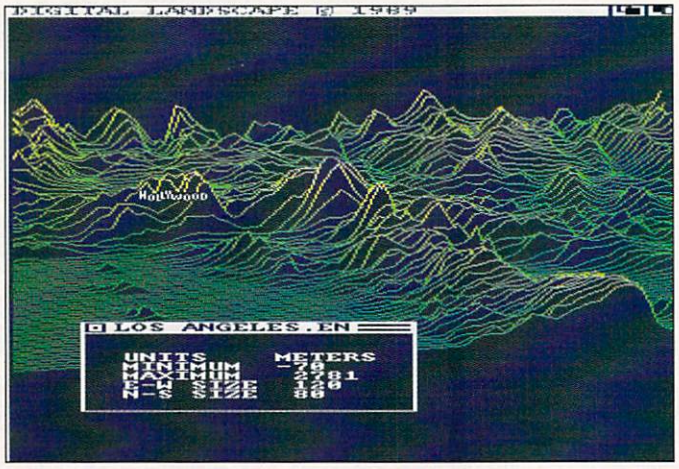


Digiscape Software's Digital Landscape

Window system that is so popular with universities, scientific establishments, and corporate America. Syndesis has, with the cooperation of GfxBase, ASDG, and Commodore itself, put together an entire system, including either Commodore's or ASDG's Ethernet board and GfxBase's X Windows system. *TSSnet* also has a programming interface for development of DECnet (which is also available for Mac and IBM) applications. *TSSnet* by itself is $395. Contact Syndesis for details about the Ethernet packages. N 9353 Benson Road, Brooklyn, WI 53521. 608-455-1422.

Music With Stripes

Those of us with somewhat less than professional musical ability (both my ears are, unfortunately, solid tin) have some hope. *Dr. T's* has just released **Tiger Cub**, billed as "The music program for the rest of us". Some of the most notable features include a 12-track tape recorder type sequencer, a conductor track with realtime tempo drawing and multiple time signatures, MIDI as well as internal Amiga IFF samples, single step object oriented editing, and full realtime graphic note and controller editing. It also has what Dr. T's calls a QuickScore module that will automatically score, transcribe, and print your opus, either single tracks or full scores up to 12 staves. Price is $99. 220 Boylston St., Chestnut Hill, MA 02167. 617-244-6954.

Show Me

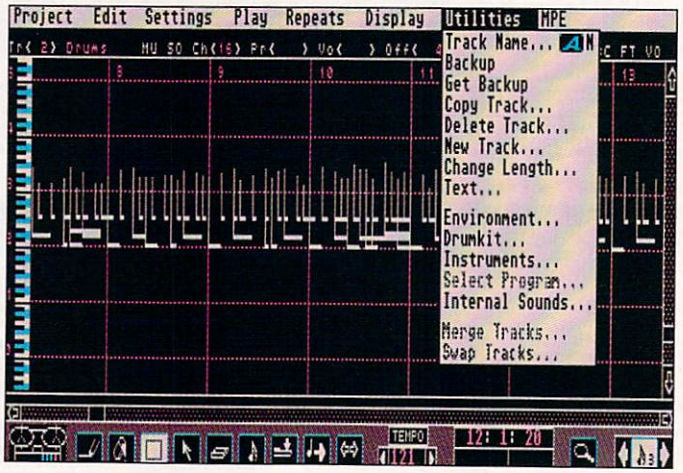
Seeing something done onscreen generally makes it much easier to understand than reading about it in documentation (no matter how well written). Thus, *Grass Roots Video Productions* has released the first two in their series of Amiga Digest Video tapes. **"Mastering Amiga Workbench and CLI"** is a 60-minute excursion through the wonders of the operating system, and **"Amiga Desk-Top Publishing with PageStream"** is a 120-minute walkthrough of Soft-Logik's package and includes a demo disk with fonts, clipart, and sample documents. Each tape retails for $30 or you can pick up both of them for $50. PO Box 10889, Burke, VA 22015. 703-569-2652.

Wireframe Worlds

We have seen plenty of fractal landscape generators by now, but **Digital Landscape** is the first to use actual U.S. Geological Survey data to render views of real locations. The package only operates in wireframe, but the level of detail can be set by the user. It uses data from two included disks, with over 400,000 elevations taken at approximately 3 mile intervals across the continental U.S. (If that isn't enough, you can also enter your own data.) The generated views can be rotated in 1-degree increments and tilted up to 89 degrees in declination. $125 from *Digiscape Software*, PO Box 113058, Carrollton, TX 75001. 214-241-9891.

New Caligari

Virtual reality is one of our favorite concepts around the *.info* offices, and we're a step closer with the release of **Caligari Broadcast**. This incarnation of *Octree*'s 3D rendering system is based on direct, realtime interaction with objects. The system is made up of five modules: Object Design, Scene Composition, Script Preview, Video Transport, and Broadcast Rendering (which produces photorealistic images in 16.7 million colors when used with a Targa framebuffer). Retail price is $3495, definitely targeted for the professional market. 311 W. 43rd St., Suite 904, New York, NY 10036. 212-262-3116.



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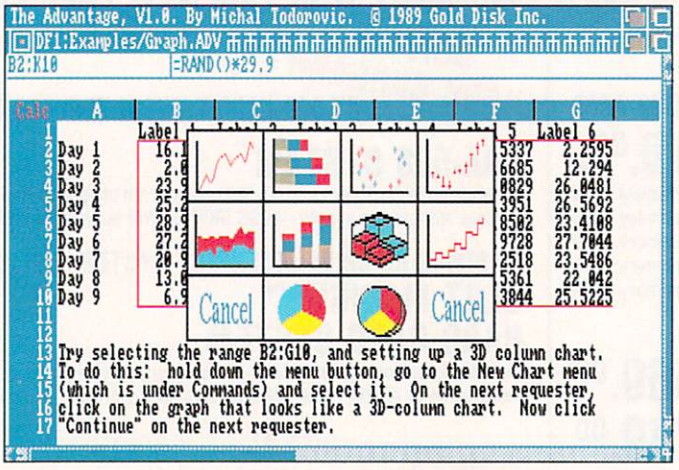

Home Office Advantage, Gold Disk's new spreadsheet

Sindy, Too

The latest in *The Other Guys'* series of sound processing software is **Synthia II**, not to be confused with the previously released *Synthia* or *Synthia Professional*. *Synthia II* is a digital sound processor that features eight synthesizers supporting rates from 4000Hz to 50000Hz (CD quality). Sample length is limited only by memory, and there are all sorts of special effects and utilities to make working with your sounds a little easier. The effects include such things as filters, phasing, echo, reverb, chorus, distortion, and a graphic equalizer. The are facilities for saving your instrument files in IFF, *SoundScape*, and *Sonix* format and the files are also compatible with *Synthia Professional*. $124.95. 55 N. Main St., Suite 301-D, Logan, UT 84321. 801-753-7620.

Tracker

Microspeed is shipping a new Amiga trackball called the **AmTRAC**. It's a sporty looking thing that won't take up much room (about 3 inches) on your desktop, and since it's a stationary device, you don't have to reserve any room for rolling it around. The two main buttons completely surround the ball, so you won't have to grope around for them. There's also a third button that acts as a drag lock. List price is $99. 44000 Old Warm Springs Blvd., Fremont, CA 94538. 415-490-1403.

Spreading

Gold Disk is shipping **The Advantage**, the spreadsheet portion of their Home Office Series. The $199.95 program offers up to 65000 rows by 65000 columns and over 90 built-in functions, including statistical, financial, and trigonometric. The expected spreadsheet features are present, along with macros, ARexx support, and a large variety of chart types. It uses sparse memory matrix technology, which means that if a cell is empty it doesn't take up any memory. It also has database features. PO Box 789, Streetsville, Mississauga, ON Canada L5M 2C2. 416-828-0913.

Audio Processing

AudioLink is a new 16-bit linear audio processor that supports 16 voices, each of which has its own A-D converter. Actually, dividing by two makes 8 stereo voices. It supports a variable sampling rate up to 50kHz in stereo (100kHz 2x over sampling in mono) and comes with onboard memory. There are built-in MIDI ports and the thing comes bundled with editing software, which sports such features as realtime playback, cut-copy-paste between voices, crossfading, and the like. Price hadn't been set as of presstime. *Beta Unlimited*, 87 Summit St., Brooklyn, NY 11231. 718-852-8646.

Fingerprint City

MicroTouch Systems, primarily familiar for mice and other input devices, is coming out with a new Amiga touchscreen system. The whole package, which is aimed primarily at the OEM/VAR market, consists of the touchscreen itself and driver software that emulates the two-button Amiga mouse. The driver also includes an expanded Preferences menu for tweaking the button/cursor control. What all this boils down to is that simply by touching the screen in certain ways, you can perform any operation the mouse can, including button clicks and dragging operations. The screen works with a multiplexing screen controller, which permits use of multiple serial devices, and it has a resolution up to 1024x1024. The **TouchDriver** site license costs $395, with the screen/controller combination listing for $895. 55 Jonspin Road, Wilmington, MA 01887. 508-694-9900.

Schizo Video

MicroSearch is shipping their **Electronic Color Splitter** which is a little box that takes any NTSC color video signal and splits it into separate RGB components. The resulting separated signals can then be fed into Digi-View or Perfect Vision for digitizing in full color. You will, of course, need a stable video source. It specifically supports S-VHS, though you could use it with any freeze-frameable VCR, laserdisk player, or the new video still cameras. $150. 9896 Southwest Freeway, Houston, TX 77074. 713-988-2818.

Drivers

Glass Canvas Productions has come out with two enhanced printer drivers, one for the Sharp JX-730 ($45) and the other for the Xerox 4020 ($24.95). Each driver claims improved color matching and they both come with sample color palettes. PO Box 6171, Boston, MA 02114. 617-367-3229.

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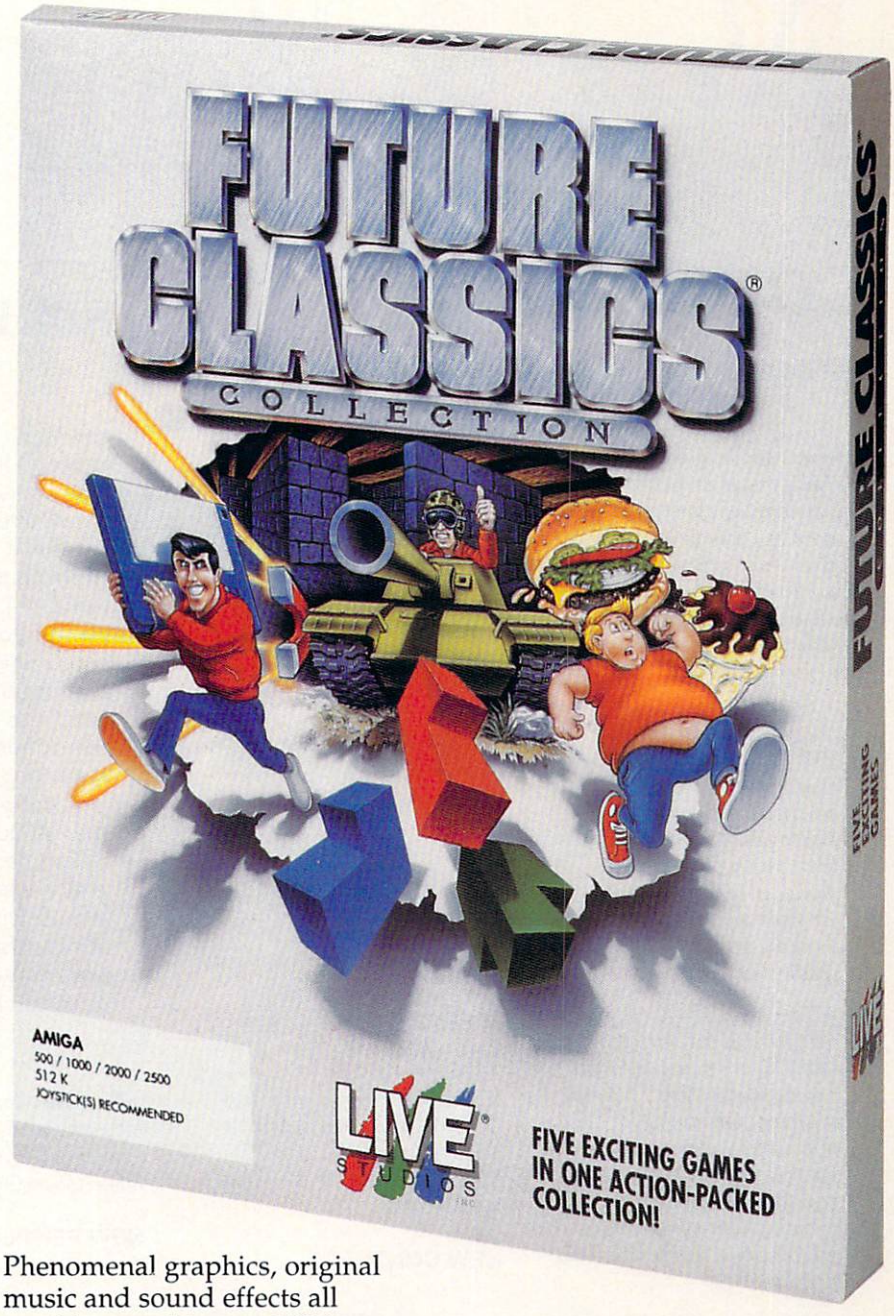

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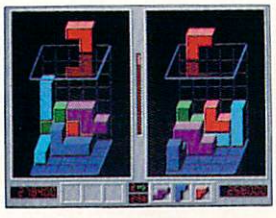

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News & Views

COMMODORE NEWS

NETWORKS

To increase competitiveness and help penetrate the business, higher education, and government markets, Commodore has announced several hardware and software products that will add serious networking capabilities to the Amiga. Product should be available by the time you see this.

- *A2065 Ethernet Network Adaptor* offers full ANSI 802.3 type Ethernet protocols over both thick and thin Ethernet connections running at 10 megabits per second. This networking product gives Amiga users access to the widely installed Ethernet networking standard. Suggested retail price is $349.
- *A2060 Arcnet Network Adaptor* provides full Arcnet protocols over Arcnet bus topology networks. The 2.5 Mbps Adaptor supports up to 256 nodes and features a socket for optional autoboot ROM with buffered memory to enhance inter-system communications. Suggested retail price is $229.
- *AS220 Amiga Client for Novell Netware* gives the Amiga the capability of using the A2060 adapter to communicate with Novell Networks running Novell Netware version 2.15 or higher. The software features password security, two interfaces; a text-oriented interface or the Amiga mouse-based interface, and allows users to utilize the Amiga's multitasking to run programs under AmigaDOS and/or MS/DOS with the Amiga Bridgeboard option. Suggested retail price is $149.
- *TCP/IP (Transaction Control Protocol/Internet Protocol) and NFS Software* provides connectivity to DoD and other networks which support standard packet-switching protocols. This gives Amiga users access to widely installed communications networks employing the TCP/IP standard. Several Amiga products such as *XWindows* from Gfxbase and *TSSnet* from Syndesis already support TCP/IP and/or NFS in their networking software products. Suggested retail price is $199.

3000 EDUCATIONAL PRICES

Commodore has announced two educational bundles available to teachers and students featuring the new A3000. A 16 Mhz 3000, 40 meg hard drive, 1950 monitor and *AmigaVision* software bundle will run you $2599. The 25 Mhz system bundle is available for $3039.

NEW CONTRACT

Commodore scored a big victory in the contest for federal government contracts by participating as a key sub-contractor in the Sears Business Systems win of the Department of Treasury's Departmental Acquisitions Contract II. The five year contract is estimated to be worth approximately $400 million to Sears as the prime contractor. Commodore will supply 68030-based Amiga workstations under the terms of the agreement. This contract award marks Commodore's entry into the federal procurement marketplace and shows that Commodore's strategy to increase the visibility of the Amiga in the vast government market is beginning to pay off.

NEW PEOPLE

Nolan K. Bushnell, founder of Atari and pioneer of the coin-op video game industry with his invention of *Pong* in 1972, has been named general manager of the new Consumer Interactive Products division of Commodore International Ltd. This special team will develop, coordinate, and market interactive Amiga-based consumer products. Bushnell's team will provide overall direction concerning these products, such as Commodore's new multimedia CDTV (Commodore Dynamic Total Vision) CD-ROM system, to the consumer sales and marketing arms of Commodore operating subsidiaries.

Roger Stanczak, a former NCR executive, was appointed Vice President of Sales. Stanczak will lead all sales activity in Commodore's professional channels including reseller, education, VAR, and OEM, and completes Harry Copperman's new management team.

CHIPS N' DIPS

Here are the latest revision numbers for chips in the A3000 as of June 15th, 1990:

Paula	R7
Denise	8373ECS
Agnus	8372AB
Ramsey	12D
Busster	13G
Gary	8B
Demac	9B
Amber	6D

SPLIT PERSONALITY?

Commodore has split the **Amiga 500** into consumer and professional version bundles to increase the marketability of the low-end 500 line. The A500 bundle aimed at the home computerist, named the **A500C**, packages a 512K A500 system, three free programs including ***Textcraft Plus*** wordprocessor (Commodore), the ever-popular ***Tetris*** (Spectrum Holobyte), and ***Where in the World is Carmen Sandiego*** (Broderbund), and an RF modulator for connecting the Amiga directly to a television for use as a monitor. Suggested retail price is **$799** and the bundle is currently available from Commodore mass merchants. Lloyd Mahaffey, vice president of marketing at Commodore, has stated that Commodore is actively recruiting high-end mass merchandisers for the A500C line. Attention is being focused on department stores, mall stores such as Waldensoft, and video stores such as Video Concepts. The professional version includes 1M of RAM and the new ***AmigaVision*** multimedia authoring system. Also priced at **$799**, the professional **A500** package is available from Commodore dealers.

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- RGB Color Monitor • System Software

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3001 KIT w/Quantum 80MB	$2579
GVP 3033 KIT (33MHz.) w/68030, 4MB, 68882	$2499
3033 KIT w/Quantum 40MB	$2849
3033 KIT w/Quantum 80MB	$3159
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AMIGA 500/2000 HARD DRIVE PACKAGES

SCSI CONTROLLERS

SEAGATE DRIVE	DRIVE PRICE	Supra Wordsync A2000	Xetec Mini Fastcard (A2000)	Trumpcard 2000	Impact 8/0 A2000	Trumpcard A500 (exp. to 2MB)	Xetec Fast Trak A500	Supra A500* (2MB exp. avail.)
ST-125N (20MB)	$209	$329	$319	$349	$399	$409	$519	$399
ST-138N (30MB)	$239	$359	$349	$379	$429	$439	$549	$429
ST-157N-0 (49MB)	$294	$419	$409	$429	$489	$499	$609	—
ST-157N-1 (49MB,28MS)	$314	$439	$429	$449	$509	$519	$629	—
ST-177N (60MB, 3.5")	$374	$499	$489	$509	$569	$575	$679	—
ST277N (60MB, 5.25")	$309	$434	$424	$449	$504	—	—	—
ST-296N (80MB)	$374	$489	$489	$499	$569	—	—	—
ST-1096N (80MB)	$429	$554	$544	$589	$624	$669	$779	—
QUANTUM (40MB)	$354	$479	$469	$479	$549	$559	$669	$569
QUANTUM (80MB)	$559	$679	$669	$679	$759	$779	$889	$769
QUANTUM (105MB)	$629	$754	$744	$759	$824	$849	$954	$849

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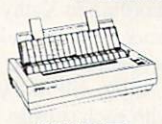

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News & Views

HAPPY BIRTHDAY!

Founded in 1980, Broderbund, publisher of the classic *Lode Runner* and the *Carmen Sandiego* series of educational games, is marking its 10th anniversary by announcing its most successful year, with sales climbing to $50 million.

Also celebrating its 10th anniversary and the 10th anniversary of the introduction of the first graphic adventure, *Mystery House*, is Sierra On-line, founded by Ken and Roberta Williams. Sierra is one the pioneers of the personal computer game industry, introducing such novel ideas as graphics, animation, and sound into adventure games.

MORE *COMPUTE!* NEWS

General Media International, Inc., the new owners of *Compute!, Compute!'s Gazette, Compute!'s PC*, and *Compute!'s Amiga Resource* has announced that it will merge the three ancillary titles into the flagship publication *Compute!* effective in October. According to Kathy Keeton, vice chairman of General Media and president of *Omni* Magazine, subscribers to the three other *Compute!* titles will find enhanced sections dealing with each subspecialty within the new *Compute!'s* pages. *Omni* will preview the revamped *Compute!* in August. This special edition of *Omni* will be received by subscribers of both *Omni* and *Compute!*

FROM THE 'OH WOW!' DEPT

IBM scientists at the Almaden Research Center near San Jose have disclosed that they have successfully rearranged single atoms, thereby raising the possibility of developing computer memory systems a million times denser than what presently exists. IBM researchers demonstrated the technique by releasing a picture of 35 xenon atoms arranged to spell out 'IBM'. The operation took 22 hours to perform. In the tiny IBM image, the xenon atoms are 50 billionths of an inch apart and rest on a crystal of nickel. If such atomic manipulations could be performed quickly and routinely, the procedure could lead to the development of computer memory systems up to a million times denser than what is now possible.

SHAKE UPS AND SHAKE DOWNS

Mindscape, acquired by Software Toolworks earlier this year, has been dissolved as a separate entity. Mindscape now exists solely as a software label of Software Toolworks.

Bruce Davis, Chairman and CEO of Mediagenic, recently announced that Mediagenic has reached an agreement with the successors to the Magnavox Company, providing for long term payments of $6.6 million in patent infringement damages awarded to Magnavox by a U.S. District Court earlier this year. The 1982 suit was brought by Magnavox over eleven video game cartridges released by Activision (Mediagenic) for the Atari 2600. Mediagenic will make monthly payments of $150,000 to Magnavox from July 1990 to December 1993, with a balloon payment due in December 1993.

SOFTWARE SALES UP

The Software Publishers Association has announced that North American software sales for the first quarter, traditionally a slow sales period, of 1990 increased to an estimated $993 million based on PC and Mac software sales. This is an increase of 25.5% over first quarter 1989. Wordprocessors were the largest and fastest growing category for the period, up 88%. According to SPA Research Director, Ann Stephens, "The industry slowdown experienced in 1989 is clearly over." The SPA attributes the surprising growth to a combination of factors: more new products and new releases, and the snowballing effect of a strong industry wide anti-piracy campaign.

WILD BLUE SIMULATED-YONDER

Do you love soaring among the digital clouds? Barnstorming a pixelated landscape? Then you will want to check out the Computer Pilots Association of America. The *CPAA* is a membership organization of individuals committed to the enjoyment of flight simulation software, particularly *Flight Simulator*, by Microsoft. *CPAA* publishes a monthly newsletter and maintains a BBS for conferencing and file-sharing. Membership information is available by contacting *CPAA*, PO Box 1034, Great Falls, VA 22066-1034.

FASTER NETWORK

The partners in the National Science Foundation Network (NSFNET), which links more than 1,500 university, industry and government research networks, have begun implementing the nation's first coast-to-coast research and education network that will transmit data 28 times faster than any other public access network. The T3 will send information at 45 megabits per second (Mbps) and is scheduled to begin operation by the end of 1990. It will enable researchers using NSFNET to perform high-speed computing applications such as distributed computing and remote graphics at transmission rates previously unavailable. The new T3 technology will transmit information at more than 5 million cps or the equivalent of 1,400 single-spaced typed pages per second.

THE FLOPTICAL DRIVE

Insite Peripherals has introduced the I325VM (Variable Mode) Floptical disk drive. The significance of this new disk drive technology is that the 3.5 inch SCSI disk drive is able to read and write to a high density 20MB Floptical format disk as well as standard low capacity Double Density (DD) and High Density (HD) 3.5 inch disks. This new class of low-cost, very high-capacity Floptical drives provides 20.8MB of user accessible removable disk storage in a 3.5 inch disk format. Insite's drive uses a proprietary double gap read/write head with one gap dedicated to reading and writing of 20MB Floptical diskettes; the second gap is dedicated to the reading and writing of standard low-capacity 3.5 inch diskettes. An Amiga users group in Louisiana, the St. Tammany Amiga Fanatics, has been testing this new drive using a Great Valley Products hard drive SCSI pass-through and an A2090 hard drive controller card on a A2500, and they report they are very pleased with the results. The 325VM will be available in early 1991.

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News & Views

Rumor Mill

DISCLAIMER: The following are among the most entertaining rumors we've heard the past couple of months. They are presented for your entertainment and amusement only. Please do not make any important decisions based on these rumors, as some will prove to be inaccurate or just plain false.

➤ With Epyx gone from the Amiga market and other companies slowing down or being acquired, which company is the best bet to take over the title of "#1 Amiga Software Company?" Some insiders are betting on... Disney!

➤ We understand the fine folks at NewTek have come up with a name for Alan Hasting's 24-bit 3D rendering program for the *Video Toaster* - it'll be called *LightWave 3D*. It should be ready to ship the same time the *Toaster* is - mid-July, as of this writing.

➤ Commodore won't quote figures, but we hear that the recent purchase of A3000 systems through Sears by the Treasury Department (for the IRS!) could eventually total as many as 3000 units.

➤ We still keep hearing about ongoing work on the "C65", Commodore's latest 8-bit computer. The latest rumors say 'It's Still Alive!' and features a built-in 1581 drive that will read MS/DOS and AmigaDOS disks, sports 512K of RAM, and will definitely be able to create (if you add some expansion memory) 8-bitplane IFF screens - something which even the Amiga can't do yet! All this for about $250, they say.

➤ So when are we going to see the CDTV-compatible 'stand-alone' version CD-ROM player for the Amiga, so Amiga computer owners can play with the same software being developed for the "Baby"? Commodore hasn't committed to that one yet.

➤ We understand that later production versions of the A3000 (when the OS is finalized in ROM, about September) may include a 1.4 meg/880k convertible floppy drive.

➤ The short-lived injunction by Hitachi against Motorola which barred distribution of 68030 chips apparently didn't hold up A3000 production, though there were some nervous days in there since it happened just as the production lines started rolling.

DTP ROUNDTABLE

The GEnie online information network has added a RoundTable devoted to addressing the technical concerns, information and professional needs of the desktop publishing community. The Design To Print RoundTable is for anyone interested in graphic design and illustration, electronic editorial communication, or production technology and publishing systems. The RT will include; a library of graphic elements, design samples, info about products, industry organizations, and hardware/software support. The bulletin board area on the RT will be divided into categories for general help, design issues, production, products support and other pertinent concerns. For further info about GEnie and the Design To Print RT contact 800-638-9636.

TETRIS CONFLICT

Fred Fish has been asked by the president of Spectrum Holobyte to remove all *Tetris* clones from his public domain software collections for the Amiga. Fred has complied by removing Fish Disks numbers 173, 221, 230, 238, 305, and 324 from circulation. Fish says they will be reissued without the *Tetris* clones. Spectrum Holobyte owns the U.S. rights to *Tetris*, which was developed in the Soviet Union.

SIGHTINGS

Commodore's name was sighted among the companies adopting the Motorola 68040 chip for future product offerings on an add for the '040 in the *Electronic Engineering Times*. Could this mean an Amiga 4000 is in the works?

- Steve Pietrowicz

➤ The cover of the May issue of *Omni* boasted a familiar looking graphic. The Robo-Bug cover artwork also graces the packaging of *Infestation* from Psygnosis.

- A. Nonimus

➤ The TV show "My World on Video" had an Amiga 2000 as part of the background set. Also, the June issue of *Computer Graphics World* magazine makes mention of the A3000 and *AmigaVision*.

- Steve Pietrowicz

➤ An Amiga 2000 with Amdek monitor was seen on the 4/1/90 episode of the ABC family drama *Life Goes On*. The Amiga was featured in a story involving an underground school newspaper. The script dealt with desktop publishing in some detail.

- Steve Hymowitz

➤ In the opening minutes of the movie *The Gods Must Be Crazy, Part II*, a Amiga 2000 is being used to display some graphical data. A closeup of the monitor clearly reveals the logo. There appeared to be an A500 set up in the background as well.

- Ken Boi

➤ An Amiga animated commercial, produced by Rainbow Advertising Sales Corp., of Cresskill, NJ. was recently nominated for a national ACE award and a national CAB award. The animated 30 second spot for a Nissan car dealership was entirely created on an Amiga 2000 using *DigiView* and *Deluxe Paint III*.

➤ Yes, you did see "Digital Creations" listed in the credits for *Total Recall*. Their *SuperGen* genlock was used in the film's creation. You'll also see the Amiga's (and SuperGen's) work in the upcoming movie *Dive!*, from the creators of *Airplane!*

Have you seen an Amiga in print, on TV, or in the movies? Share it with .info *readers! Send your sightings to:* .info *Sightings, 123 N. Linn St., Ste. 2A, Iowa City IA 52245.*

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How To Use Brush Mapping in Turbo Silver

By Leo L. Schwab

Turbo Silver from Impulse has one of the prettiest 3D renderers available for the Amiga. Unfortunately, many people have been left confused by *Silver*'s user interface and manual. This is a shame, since the program is capable of some wonderful things. One of these wonderful features is image mapping. *Silver* is capable of taking an IFF ILBM image and painting it onto a 3D object. This is very useful for, as an example, applying insignia to spacecraft, or adding fine detail to the surface of a model. The problem is that exactly how this is accomplished has never been made clear, and gets downright confusing when you try to use *Silver*'s "Wrap X" or "Wrap Z" options. This article focuses on *Silver*'s image mapping, and attempts to explain the underlying concepts that, once understood, will empower you to do what you want.

Image mapping, or as the *Silver* manual refers to it, brush mapping, is done by associating an IFF ILBM file with the AXIS of an object. Contrary to *Silver*'s manual, ILBM brushes may be attached to the axis of any object; you don't have to create an axis especially for this. (Note: the exception to this general rule is spheres. The reason for this is rather involved, and outside the scope of this article. Just be aware that spheres are a special case.)

To associate an ILBM file with an object, perform the following steps:

Bring up *Silver*'s ATTRIBUTES requester in the *Silver* object editor and click on the "IFF Brush" gadget to turn it on. Exit the requester.

Go into the Brush menu and select an unused entry in the menu (which turns on the checkmark for that entry).

Select "Load" from the Brush menu and use the file requester to select your image file. The image may be of any size and configuration. Don't worry about the wrap menu yet; we'll cover it later.

The selected image will be painted onto the associated object when you render the scene. If you have used *Silver*'s GROUP feature to make this object the parent of a group of objects, and the child objects also have the IFF Brush attribute set, then the brush will be painted on all the child objects as well. How the children end up getting painted depends on the orientation of the axis of the parent object in relation to its children, and which wrap mode you selected. (This is why the *Silver* manual recommends the use of a separate AXIS object for brush mapping; it permits you to make it the parent of a group and position the image on the child object freely.) Brush mapping works in *Silver*'s "solid model" and "full trace" modes. Solid model mode runs faster, so you can preview your work relatively quickly before doing the final full trace.

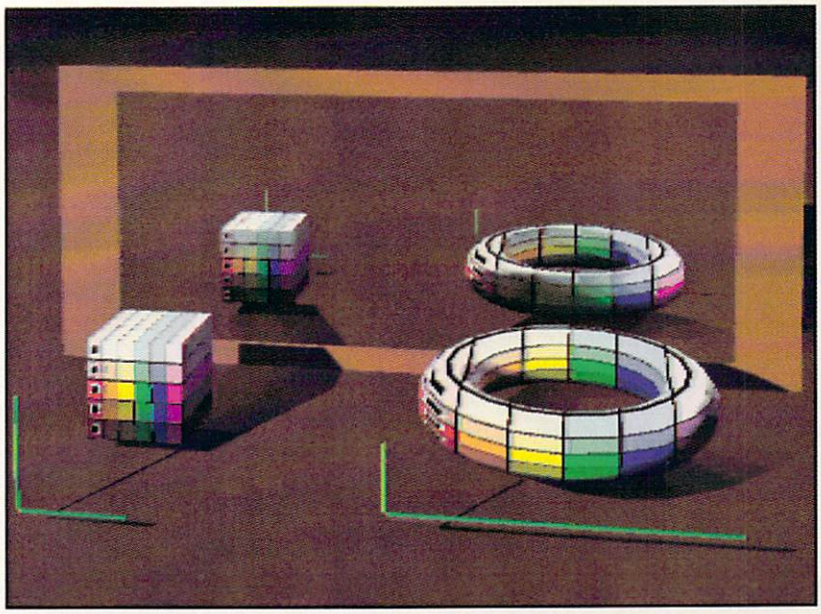


Figure One: Flat wrapping

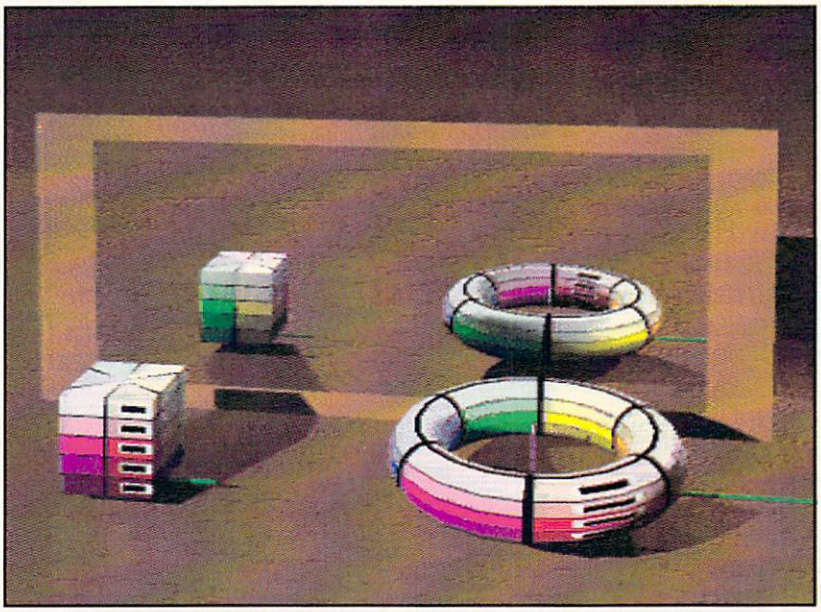


Figure Two: Wrap Z

How the image is painted on the object depends rather heavily on the wrapping mode selected. We'll start with flat wrapping, since that's the easiest to grasp.

Imagine a slide projector, except that this slide projector, like a laser beam, doesn't spread out over distance; it's always a perfect beam. This slide projector also projects both forwards and backwards. The shape of the projector beam is always rectangular, and the size of the rectangle is represented by the X and Z components of the object's axis. The ILBM image always perfectly covers this rectangle. This means you control the aspect ratio of the image by changing the length of the X and Z components. (This is one thing the *Silver* manual illustrates well.)

Now, turn on the projector. The image will be projected onto the surfaces of the object. See Figure One for an example of flat wrapping in action. The mirror in the figure lets you see the rear faces of the objects. Note that ALL faces of

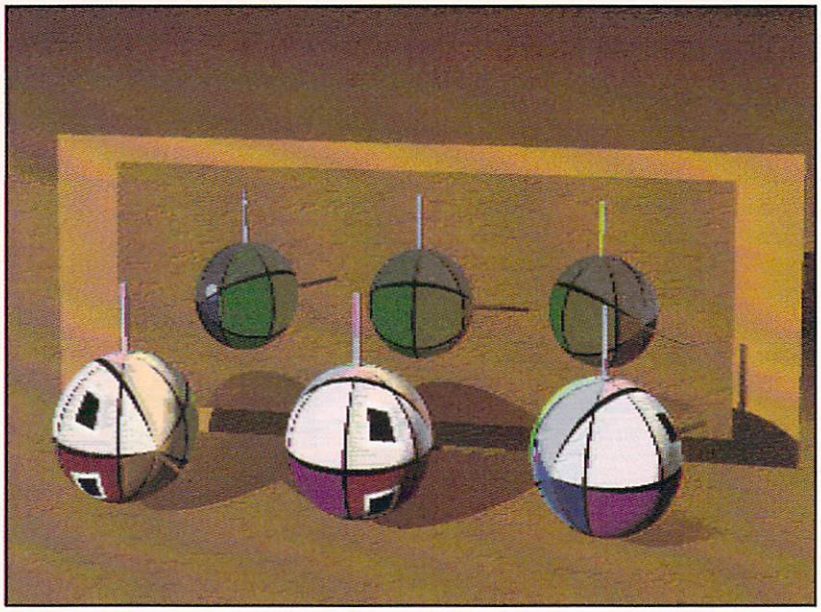


Figure Three: Wrap X and Wrap Z

How the image is painted on the object depends rather heavily on the wrapping mode selected.

the object are painted, including the ones not facing the projector-axis. The green floating L's in the picture are the axes from which the brush was projected. Note that they could just as easily be closer to the object or behind it, or even inside it, and the effect would be the same.

Now we come to the slightly tricky modes, "Wrap X" and "Wrap Z." Fortunately, they are equally as easy to understand once you know the trick. Suppose you pick "Wrap Z". This will have the effect of "wrapping" your brush around the Z component of the axis, which you would do for, say, a soda can standing up. The key to making the can come out looking right from all sides is knowing where to position the brush axis. To illustrate this, you'll have to use your imagination again.

Imagine a woman, with dark hair, six feet tall, wearing a leather skirt and Spandex. (This has absolutely nothing to do with the tutorial, but who cares.) Imagine she's holding a fluorescent light; you know, one of those long narrow tubes. This tube, in the case of Wrap Z, represents the Z component of the axis. Imagine further that the brush is tightly wrapped around the tube. Now, she turns on the light. The light will shine through the brush imagery and on to the surface of the object, where it will then be painted.

If you imagine it working like this, then it becomes obvious where to place the brush axis to get the desired effect: in the very center of the soda can. That way, the fluorescent light will shine through the brush imagery and hit the can evenly on all sides. See figure two for an example of this. Again, note that all surfaces of the object are affected. The "length" of the brush is exactly the length of the Z component of the axis (this is why you can't see the Z axis in the cube in figure two; it is buried within it). The length of the X component of the axis has no effect on Wrap Z. "Wrap X" behaves similarly, except that the X component of the axis controls the brush length.

If you place the brush axis somewhere other than the center of the can, then the brush won't hit the surface of the can evenly, and the image on the can will appear warped. However, depending on what you're trying to accomplish, this may be just what you want.

Wrap Z, from a top view, starts at six o'clock, and wraps the imagery counterclockwise. Wrap X, from a right side view, starts at nine o'clock, and wraps the imagery clockwise (which you may find counter-intuitive; imagery may appear reversed from left to right). In both wrapping modes, *Silver* makes the opposing edges of the image mate perfectly; that is, there's no way to wrap, say, only 180 degrees of the surface of the can.

With the fluorescent light analogy, it should be easy to visualize the results of Wrap X or Wrap Z individually. But what happens if you combine them? I couldn't figure this out in my head, so I decided to try it. Figure three is the result. All three spheres had both Wrap X and Wrap Z turned on.

I still can't figure out what it's doing. However, maybe you can, and will find a use for it.

For all modes, both flat and wrap, if you make the X and/or Z components of the axis smaller than the object you intend to map, then parts of the object will be left uncovered by the brush imagery. These parts will be rendered in the color they would be ordinarily, as if brush mapping had not been turned on.

Keep in mind that *Silver* only permits you to have one brush mapped onto a given object at a time. You will have to break objects into separate parts if you want to apply multiple brushes.

If you would like to play with actual working CELLs from within Turbo *Silver*, the CELL files that were used to generate the example pictures in this article are available for download on The WELL, PeopleLink, and BIX under the filename INFOCELL.LZH.

I'd like to express my thanks to Reichart Von Wolfsheild, who suggested a method of conducting a conclusive test of *Silver*'s brush mapping behavior. I hope this tutorial has proved useful to you, and that you're just that much closer to getting that picture you always wanted.

In the Belly of the Beast

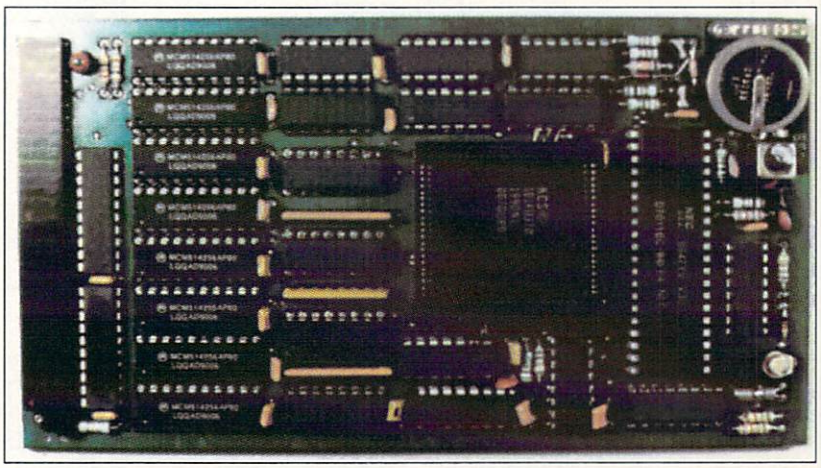
After having more than a week to work with a prototype of Pulsar's PC/XT card for the Amiga 500, I find myself favorably impressed. However, as of this writing, the *Power PC Board* still needs a little work before it can be released for public consumption. As far as I know, this sample of the *Power PC Board*, which was provided by the good Dr. Oxide, is the only one in existence on this side of the Atlantic. In view of the interest in this product, I felt that a preliminary report was in order.

If I were evaluating the *Power PC Board* as a hardware PC/XT clone that plugs into the belly of an Amiga 500, I would have no qualms about pronouncing it fit as a fiddle. It is only some of its ancillary functions, which are listed in Pulsar's literature, that are giving me problems.

The *Power PC Board* , which is roughly the size of Commodore's 512 kilobyte RAM expansion, fits right into the Amiga 500's memory slot. On little more than 20 square inches of printed circuit real estate, its European designers have managed to squeeze one megabyte of RAM, an NEC V3.0 microprocessor running at 8.0 megahertz, a Phoenix BIOS in ROM, and a battery- backed clock. The rest of the board is crammed with a variety of digital chips whose identifying marks have been thoughtfully obliterated.

The one megabyte of RAM shows up on the XT side as 704 kilobytes of system RAM plus 64 kilobytes of extended memory (EMS). The *Power PC Board* does not come with its own disk drive, but uses up to four Amiga disk drives as PC drives. I ran the *Power PC Board* on an Amiga 500 with two 3.5 inch and one 5.25 inch floppy drives without any problems. The Norton Utilities computing index gave the board a speed rating of 3.3 as compared to a standard IBM XT. The software which was supplied with the system consisted of MS/DOS version 4.01, *Dos Help*, and *PC Tools* version 6.0 on the MS/DOS side and *CrossDos* on the Amiga side.

On the Amiga side, the *Power PC Board* contributed 512 kilobytes of expansion RAM to the operating system. However, I was unable to locate the 512 kilobyte supplementary RAM drive which was also supposed to be there. I was also unable to access the on-board real time clock on either the Amiga side or the XT side, nor was I able to locate the Amiga's mouse on the XT side. I suspect that all of these problems are simply due to the incomplete state of the package - as of this writing, there is still no English documentation. The custom drivers - which are probably required to access the RAM drive and the mouse - were not available, and the real time clock may have simply failed due to the excessive handling this prototype has received. In my opinion, it is a tribute to the hardware designers that this board functions at all after what it has been through.



The Power PC Board includes a megabyte of RAM, a battery-backed clock, and an XT clone

The *Power PC Board* is not a BridgeBoard nor does it multitask. When you power up with its boot disk it automatically goes into XT mode. Booting from an AmigaDOS disk causes the A500 to behave in the usual fashion. While running as an XT you can access a custom setup screen by entering a Left-Amiga/Help keystroke combination. This lets you adjust a variety of the XT parameters such as disk drive assignment, screen colors, video display mode, and serial port assignment. Some of these settings take effect immediately, while others require a reset of the XT. PC/XT video output, which is emulated entirely on the Amiga side, is 16-color text in 80 columns. The PC graphics are limited to Hercules monochrome, CGA lo-res four-color, or CGA two-color hi-res without interlace. According to Eric Miller, the developers are planning to emulate VGA graphics in a future release.

An updated version of the *Power PC Board* is expected within one week. I should have a complete report ready for the next issue.

Power PC Board

Pulsar

410 Maple Ave.

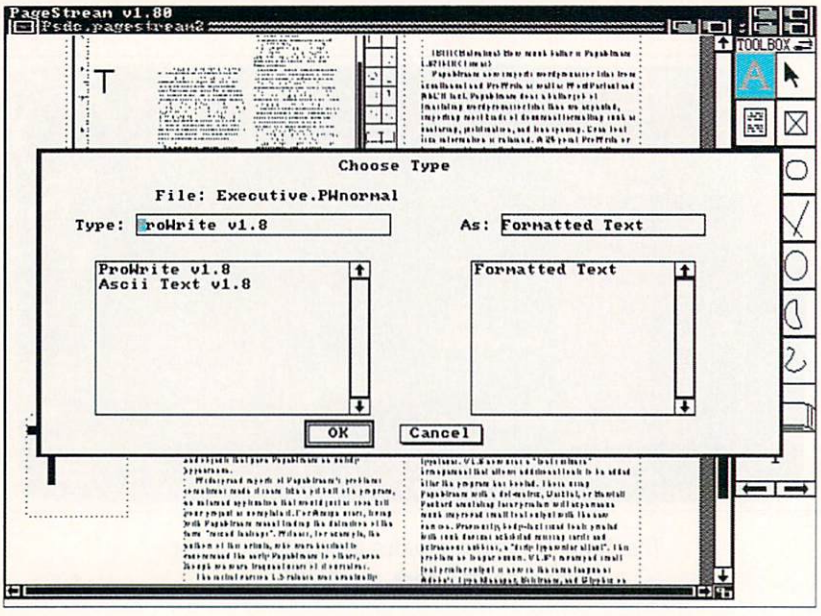
Westbury NY

11590

516-997-6903

By Morton A. Kevelson

PageStream 1.8



PageStream V1.8 from Soft-Logik.

by Loren Lovhaug and Frank Hudson

The first Amiga version of Soft-Logik's *PageStream* was a contradictory mess of power and instability. The user interface was well thought-out, but it concealed a number of buggy "Don't try that one!" features. *PageStream* excited owners of Hewlett Packard emulating lasers and Deskjets by being the first Amiga program to bring proper scalable outline typefaces to these devices, yet it produced somewhat uncouth renditions of the typefaces in sizes below 15 points. Owners of lowly dot-matrix printers could use *PageStream*'s outline fonts, but printing times with the original printer drivers could try the patience of the most underfunded desktop publisher. The main layout screen featured all the ruler and grid options you could ever want, but they were soon obscured by piles of "screen garbage" - left-over measuring lines and objects that gave *PageStream* an untidy appearance.

Widespread reports of *PageStream*'s problems sometimes made it seem like a pit bull of a program, an untamed application that would just as soon kill your project as complete it. For Amiga users, living with *PageStream* meant finding the definition of the term "mixed feelings". Witness, for example, the authors of this article, who were hesitant to recommend the early *PageStream* to others, even though we were frequent users of it ourselves.

The initial version 1.5 release was eventually replaced by the more stable *PageStream* 1.6, fixing some of the worst bugs. Continuing the progress, the current *PageStream* version 1.8 is a much more docile beast. Though the layout of the toolbox, menus, and commands remains largely unchanged, all the once problematic features we have tried now work reliably and there are some significant additions as well. Finally, a *PageStream* you can show in polite company!

How much better is *PageStream* 1.8?

PageStream now imports wordprocessor files from *excellence!* and *ProWrite* as well as *WordPerfect* and ASCII text. *PageStream* does a better job of translating wordprocessor files than we expected, importing most kinds of document formatting such as centering, justification, and line spacing. Even font size information is retained. A 24 point *ProWrite* or *excellence!* font will stay at 24 point size and the usual font enhancements (bold, italics, superscript etc.) are, of course, supported. *WordPerfect* conversion is less thorough, but even there *PageStream*'s module is more sophisticated than other Amiga DTP programs.

Structured graphics in *Aegis Draw* format and Encapsulated PostScript now import properly, although EPS art will only print on PostScript printers. *PageStream* also has import modules for GEM's .IMG format, several other picture formats commonly used on the Atari ST, and of course Amiga IFF graphics.

PageStream's 10 built-in structured drawing tools now work more smoothly and intuitively. A finicky file requester has been replaced with an improved version. The screen garbage and obstinate undeletable/unselectable objects found in the earlier versions are greatly reduced. "Tags," a powerful document style management feature, now works dependably. The spellchecking module, once a direct pipe to the guru, now works, albeit slowly.

Enhanced font support and manipulation has arrived in stages since the initial release of *PageStream*. There are now a fair number of typefaces offered from Soft-Logik and other third party sources to supplement the 10 scalable outline fonts that come with the program, including a package of representative screen fonts for the standard PostScript typefaces. V1.8 now uses a "font suitcase" arrangement that allows additional fonts to be added after the program has booted. Those using *PageStream* with a dot-matrix, DeskJet, or Hewlett Packard emulating laser printers will experience much improved small font output with the new version. Previously, body-text sized fonts printed with such devices exhibited missing serifs and extraneous nubbins, a "dirty typewriter effect". This problem no longer occurs. V1.8's revamped small font printer output is now in the same league as Adobe's *Type Manager*, Bitstream, and Glyphix on MS/DOS and Macin-

tosh systems as well as the Compugraphic fonts seen in Gold Disk's competing DTP products for the Amiga. In comparing *PageStream*'s scalable fonts with Compugraphic's in particular, we see little difference in print quality and a noticeable speed advantage for *PageStream*, although the Compugraphic fonts do produce a smoother and presumably more accurate screen font representation than do *PageStream's*.

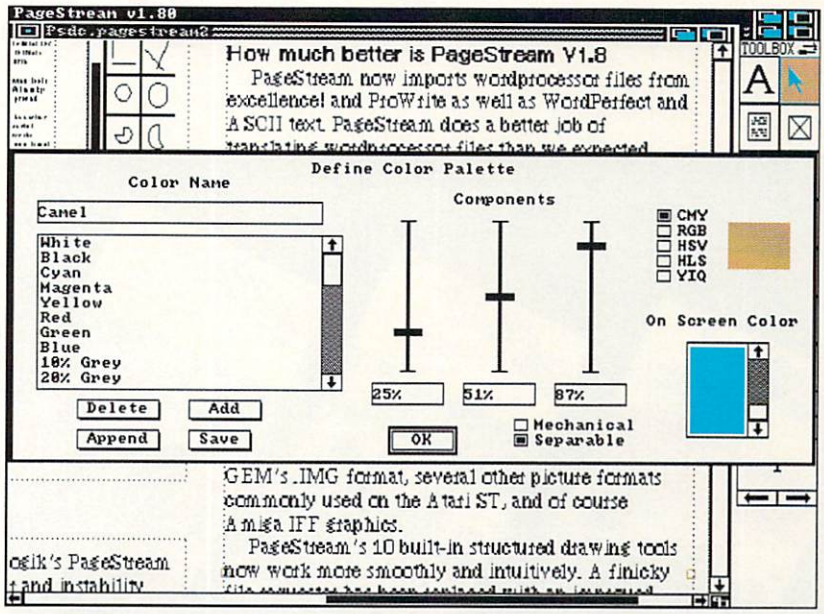
Additional printer drivers are included with this release. Though marked "beta" these new drivers introduce improved support for Epson LQ2550 360 x 360 dpi 24-pin dot-matrix output and the HP DeskJet. Printing speeds with a dot-matrix printer are better than those of the original *PageStream*.

PageStream will also output to PostScript printing devices, either directly or though a print-to-disk option. *PageStream*'s PostScript output when using PostScript fonts has always been better than its native scalable fonts deliver, and although this difference has narrowed, it remains. An "Auto-Unload" feature has been added to V1.8's PostScript support, allowing documents using multiple typefaces to free up scarce downloadable font memory by dumping old font information out of the printer. Although few users may notice, the ASCII PostScript output files generated by *PageStream* 1.8 are now better organized and more readable, a boon to those who wish to modify the raw PostScript source before printing.

The V1.8 upgrade comes with 20 new manual pages describing the upgrade's installation procedure, the improved font management system, the new file requester, and a brief rundown of some of the other changes. Unfortunately, the new *PageStream* user is still left with trial and error as the only method of learning about many *PageStream* features covered in the less-than-adequate older manual sections. Thanks to the bug fixes this process will be a lot more fun than it was in *PageStream*'s early days.

PageStream has grown to become a trustworthy product. The improvements work well and have aggressively addressed some the weakest aspects of the earlier versions. Obviously, owners of earlier *PageStream* versions should upgrade to V1.8 immediately. If you are considering a first purchase of *PageStream*, it is now the best under-$200 DTP package for the Amiga. Compared to its leading competitor in this class, *PageSetter II* from Gold Disk, *PageStream* 1.8 offers more layout freedom and more scalable outline fonts for non-PostScript printers. *PageStream*, unlike *PageSetter*, also offers PostScript support within the program.

Comparing *PageStream* to Gold Disk's more expensive *Professional Page* is more of a judgement call. *PageStream* offers better wordprocessor importation features and comparable typographic and page size



PageStream's Color Palette Requester.

controls. *Professional Page* lacks the built-in unlimited object and text rotation abilities of *PageStream* and has a less sophisticated object drawing toolbox. To equal *PageStream*'s abilities in these areas with *Professional Page* you need to extend the price difference between the two products even further by purchasing Gold Disk's *Professional Draw*. In *Professional Page*'s favor is its integration with the fast (again, extra cost) text editor *Transcript* and Gold Disk's longer experience with color separations and PostScript service bureau output. *PageStream*'s user interface is more intuitive than *Professional Page*'s. Most Amiga users, who, after all, will be producing black and white output on sub-$2000 printers, will be well served by *PageStream* 1.8.

Note from .info's production department

I would like to have done this page in PageStream to show how professional this program's output looks at 1200 dots per inch. Unfortunately, I ran into some incompatiblity problems. PageStream's PostScript driver works with Laser printers, but not necessarily with imagesetters. They did provide a Linotronic driver, which to no great surprise, does not drive our new Compugraphic imagesetting equipment. Still, there is hope on the horizon; we have just received a beta version of PageStream 2.0.

- Megan Ward

PageStream V1.8

★★★★

Soft-Logik

11131 S. Towne Square, Suite F

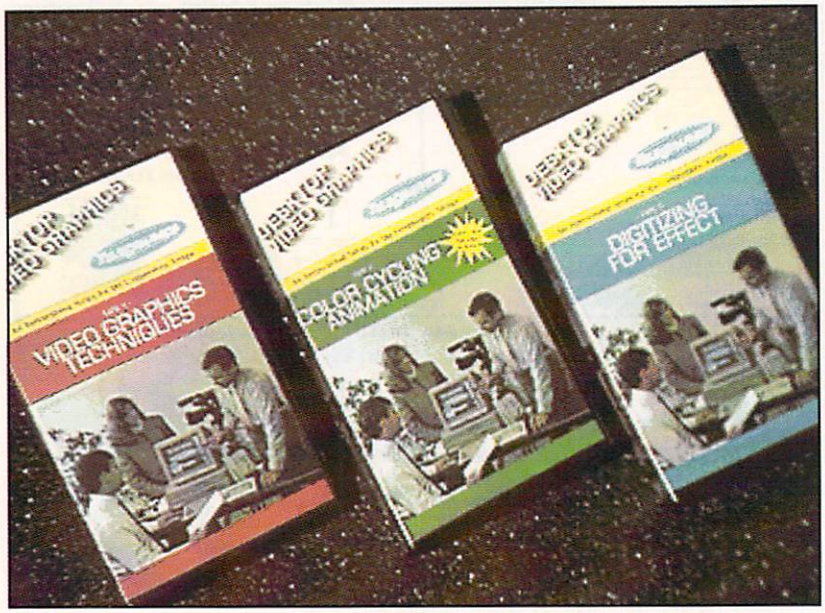
St. Louis, MO 63129

314-894-8608

Video

Oran J. Sands III

on



Telegraphics International's excellent series of videotape Amiga tutorials.

.info's Video Guru, O.J. Sands, takes a look at the state of Amiga video tutorials.

If the game show *Jeopardy* ever includes a category on computer graphics or desktop video it's a sure bet that none of the contestants will pick it (Unless, of course, Sheldon Leemon's on the show: "Pixels for 20, Alex!"). Why? Because until recently it's been nigh impossible to locate a good source of information about either.

Asking questions of every expert you meet will usually get you a few answers, most of them conflicting. Going to the library will probably net you little. The books we've seen till now have been sketchy at best and hardly comprehensive. This has been compounded by the fact that both video and computer technology have been changing at an unprecedented rate.

Fortunately the desktop video market has grown and is beginning to mature. This newfound stability has given others the chance to develop new educational and instructional materials. I've personally reviewed the following and I am pleased to say that here is what you need.

VIDEOTAPES

One of the rages in today's educational market is the how-to videotape. Whether it's cooking or sailboarding there's a tape to describe how to get started. I've seen several videotapes explaining Amiga graphics techniques for video use. It's a natural idea. How better to see Amiga TV graphics than on TV? Unfortunately, many look as if they were produced in someone's garage with no lighting and a poorly-focused camcorder. It's hard to put much faith in a tape from a company that can't produce its own tape very well.

The productions from Telegraphics International (aka Cape Fear Productions) however, are not only well-produced but it's obvious that they practice what they preach. Their tapes are clean and well thought-out, and they present a clear message. Most importantly, they cleverly use the Amiga to deliver that message.

Telegraphics has a series of three tapes covering many different aspects of the Amiga and the various ways to utilize it in video production. The first of the series is titled *Video Graphics Techniques*.

This 30-minute tape contains most of the information a budding young Amiga artist needs to produce attractive computer graphics for television. Regardless of what sort of graphics you need, be it text, barcharts or full-screen art, this tape will show you the right way and the wrong ways to do your graphics. The most impressive parts of this tape are the on-screen examples of Amiga graphics, shown in both proper and improper styles. There is no quicker way to describe a bad choice than to show it to you. And to then use the same graphics with correct choices of color, size and detail makes it all quite clear to the viewer.

Serving as a constant reminder of how to do the graphics are the program's own Amiga graphics, which are always readable and clear (and this is VHS tape too!). There is simply more information contained in this short tape than you will believe possible. If you get only one of Telegraphics' three tapes this should be it.

The second tape in the series is titled, *Color Cycling Animation*. Somewhat longer than the first tape, it addresses the use of color cycling for animating your artwork. This tape is very thorough and gives many examples. The step-by-step process used keeps the viewer from getting lost. A disk of IFF images is supplied to facilitate making your own graphics. Using *Deluxe Paint* as their demonstrator, the producers wring more out of color cycling than you can imagine. They make people walk and backgrounds scroll using nothing more than color cycling of the Amiga palette.

The third Telegraphics tape opens with the narrator welcoming you to the tape (using the Amiga's voice) and then cracking into a million pieces and tumbling

to the floor. You suddenly realize that it was actually a digitized image of him superimposed over the set, animated with *Deluxe Paint*.* The title of this third and final tape of the series is *Digitizing For Effect*. Note the last two words of the title. The topic here is not just digitizing, but how to do so to meet your needs.

This tape is longer than the other two, but it is simply the best demonstration I have ever seen on the topic. Every nuance of how to digitize is covered, and the possible variations of usage are constantly compared on-screen to let you decide for yourself what is best. This technique is very powerful. Details are shown in magnified closeups to further demonstrate the material. Not only is the the digitizing process examined, but how to use the images you create is covered as well. Much use is made of paint programs and graphics utilities for modifying the images. Again, the ability to see the actual Amiga images as the tape plays serves to convince the viewer in a way no book ever could.

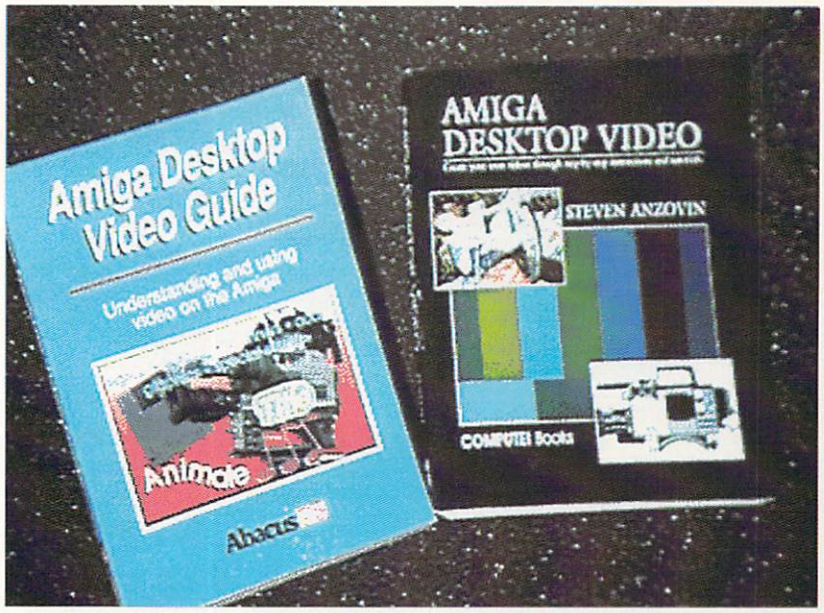
Each of the Telegraphics International tapes are produced in a manner that's educationally sound. These folks obviously know their instructional techniques. When discussing computer graphics design the first advice they give is to "Define Your Graphic": What is its purpose and how is it to be used? This is exactly what any artist or producer should do before ever touching a mouse. Kudos to John Kelly at Telegraphics International for a job well done.

BOOKS

In the last three months I've been able to locate more books about video and the Amiga's role in video than I've been able to find in the last three years. That's not to say that weren't any available, just none that I'd recommend to anyone. Of course desktop video is so new that any book on the market until recently was either incomplete or hurriedly rushed to market; neither good choices. The books reviewed here actually have something to offer and also have the advantage of a few years of Amiga video usage behind them.

Amiga Desktop Video Guide
by Guy Wright
Abacus

The subtitle of this book is "Understanding and using video on the Amiga". To this end Mr. Wright,



Two very good books about Amiga video in specific.

Founding Editor-in-Chief of *AmigaWorld* magazine, attempts to cover everything. This is probably his undoing. His technical descriptions of video devices and operations are correct when discussing the basics, but the details are often wrong or based upon common misconceptions.

Once past the first three chapters of tech material, the book concentrates on the Amiga and the programs and functions you'll use. There are separate sections on just about any graphics operation you'll ever encounter, from painting thru digitizing to raytracing. Even music and audio are covered, topics which are all too often ignored by most video publications. Each specific chapter ends in a listing of Amiga programs related to that chapter's topic. Occasional errors creep in, so make sure you do some research on your own before you make any purchases based on what you read here. There is a good chapter on using Amiga products to create special effects.

The discussions are rather dry, and there are very few illustrations to help get the point across. The writing style and layout of the book are somewhat choppy and disjointed, which makes for difficult reading. If you're looking for a general information book, then this book is for you. If you're looking for an instructional book, then look elsewhere.

In the last three months I've been able to locate more books about video and the Amiga's role in video than I've been able to find in the last three years.

Amiga Desktop Video
Steven Anzovin
Compute! Books

Steve Anzovin is no stranger to the Amiga scene,

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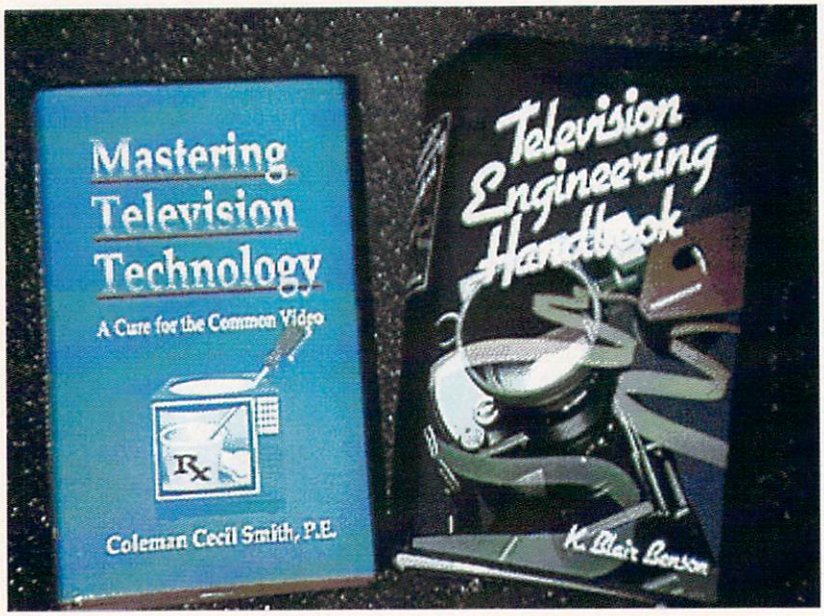
* Each of Telegraphic's tapes has a different opening scene, each using the Amiga in a novel and creative way. These openings are real brainteasers, daring you to figure out how they did it.



OJ's picks as the best generic video handbooks.

Asking questions of every expert you meet will usually get you a few answers, most of them conflicting.

having written what is perhaps one of the best books ever on using the myriad features of *Deluxe Paint*. I purchased his latest book hoping he'd done the same thorough job for Amiga video, and I was not disappointed! From the opening paragraph on, this book is entertaining and hard to put down. It is filled with illustrations and color pictures demonstrating the various techniques that are discussed. The illustrations seem to have been created with *Deluxe Paint* and printed with a dot-matrix printer; while not high-quality artwork, it rarely detracts from the information being presented.

Like the Abacus book, it contains a few technical misconceptions (Do not use the example on creating color bars using the Amiga!) but can usually be trusted. Unlike the Abacus book, it doesn't try to be an expert source for technical information. *ADV* clearly communicates both the hows and more importantly the whys of doing video as well as the whys and hows of using the Amiga. There are numerous examples throughout the book. The reader is walked thru several real-life video presentation scenarios to show how the Amiga can be of use.

I can heartily recommend Anzovin's book to anyone interested in desktop video, whether a computer user or video person, novice or expert. It's a wonderful encapsulation of everything you should know, while not pretending to know it all itself. A very complete and helpful reference guide and glossary can be found at the back of the book. You'll find yourself reading this book non-stop and later pulling it down from the shelf to reacquaint yourself with it.

Mastering Television Technology
Coleman Cecil Smith, PE
Newman-Smith Publishing Company
ISBN 0-929549-00-7

If you're looking for a book about the technical side of video that doesn't read like Greek, then this is it. It's aimed at producers and directors who would like to finally understand what the engineers have been telling them for years. Because of that, most anyone can read this book and understand the technical issues being discussed. All the information is accurate and up-to-date. You'll find information on CCD cameras, videodiscs, Y/C recording, and digital video. The author is a professional engineer and a writer, a combination that makes reading this book a joy.

There are numerous appendices that give signal standards, videotape formats, SMPTE time code standards, and complete test procedures for those who need them. This book is a wealth of easy-to-read and easy-to-find information. Reserve a prominent place in your library for it. The only drawback is the price. Video books for video people tend to be expensive and this one is no exception at $49.95. Well-illustrated and well-written, it's a bargain if it's what you need.

Mastering Television Technology
K. Blair Benson
McGraw Hill
ISBN 0-07-004779-0

This book is as dry as the Sahara desert and just about as easy to fathom. However, it is *the* source for anything about video technology, regardless of how minute. Everything you could care to know is here. Finding it's sometimes a problem, but, trust me, it's here. An invaluable reference book for the video engineer, for anyone else, it'd make a great doorstop. I use it when I can't find the answer anywhere else. It's large and heavy and very expensive at $99.95. If you're an engineer or developing hardware for video you shouldn't go without it. If you're anyone else I'd recommend Cecil Smith's book instead.

Well, I think that winds up this month's offerings. There are certainly going to be more and more books and videotapes released in the months to come, and we'll certainly review them if they're of interest. I even know of one product that will be releasing a videotape tutorial as a part of the software package. Stay tuned!

Computer Magic

Professional Photography Discovers the Amiga

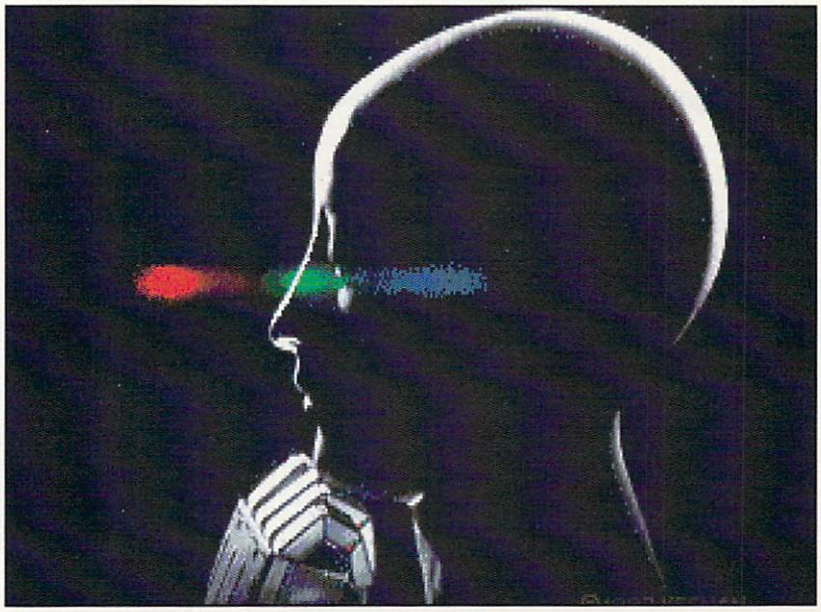
The technology of imaging is evolving at an ever increasing rate. New developments in cameras, lens, films, plus the new fields of still video and digital special effects seem out of reach of many professional photographers. For some pros, the Amiga computer offers affordable access to image processing, digital special effects, digital retouching, and computer imaging.

Professional Photographer Larry Keenan started by buying coin-operated video games because he did a lot of high-tech and special effects, and also shot computer software packages. "I could get clients playing the games during the shoot and they wouldn't bother me," says Keenan. "But none of the computers that I was working with or photographing had the kinds of facilities that I saw in the games. They didn't have the memory, the speed, the color, they didn't have the motion, none of it. So I waited. I wanted the same kind of power the games showed."

Keenan had heard about the Amiga, and believed it had a lot more of the graphics and color, speed and sound, all the features he was looking for. He followed its progress by reading computer and trade magazines. According to Keenan, "I had started buying computer magazines mainly because I was shooting computers so much and I didn't know anything about them, although I had been shooting them for ten years. If we had a system set up in the studio and it went down, I had no idea how to get it back up again. I felt I needed to be more computer literate."

For Marshal Rosenthal, interest in computers also grew out of his clients' needs. He started specializing in photographing children during the early 80's at the same time that the computer industry developed game machines and home computers. It was natural that he ended up photographing children using these machines.

"I found that a large portion of my work involved working with magazines that required photos of electronics, often with children using them. This included a fair number of computer magazines. I'm also a writer, but hadn't been able to find much time for it," explained Rosenthal. "During a trip to England, *Family Computing* had asked me to check on some young people who were doing different things with computers for a comparison article on kids overseas. In order to contact these kids I made contacts with the publishing companies that produced computer magazines. They were interested in what was happening in the States, and asked me to send information and pictures.



Prism Head by Larry Keenan

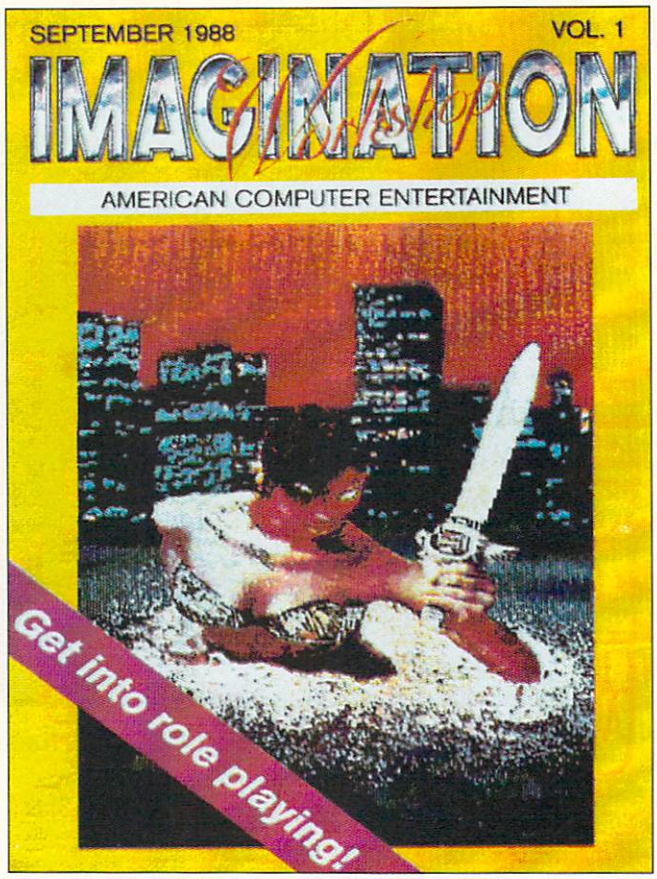
Before I knew it I was supplying complete articles. That was the start of my working with the overseas market which is a much more creative field as far as photography goes. This let me experiment with different effects, stretching to find different ways to present a visual idea. When the more powerful personal computers arrived, I started to do a lot of things with them."

THE TECHNOLOGY

To understand what you can do with a graphics computer like the Amiga, you need to understand some of the basic technology. Photography works with an essentially infinite set of tones and colors. Computers work with a set of numbers that represent those tones and colors. In the conversion process some of the gradations in the tones or colors may be lost, depending on the power and resolution of the computer system used. The process of converting the photograph's image into data a computer can understand is called digitizing, and scanners and video digitizers are the devices used in the conversion process.

Once an image is converted to computer data, it can be displayed on the computer's monitor, the image can be manipulated (collage, contrast or color correction, retouching, distortion, or other special effects), and then the modified image can be sent to a film recorder - in essence a reverse scanner - to be captured on film.

By Matthew Leeds



Magazine cover produced with the Amiga by Marshal Rosenthal

THE CREATIVE PROCESS

"For example, I was doing a feature on a computer game, a police action game. We did it as a detective story, and ended up creating a digitized comic book that consisted of conventional photography that was then digitized, enhanced, had text balloons added, and was then output for final pasteup." Says Rosenthal, "The point of it was that you don't think of the photograph as the final step. In another instance a computer magazine was covering a computer trade show and they wanted to spice up the visual elements of the article. What I created was a character, a little digitized guy, who jumped out of one of the monitor screens shown in the black and white photos from the show and wandered around the layout."

The computer can be put to use for other purposes as well. Keenan has been producing comps on the computer. "There may be a special effect a client likes and there isn't time to do it in real-time, so I'll do it on the computer overnight and show it to them the next morning. They can approve the comp and then we can go to real photography." According to Keenan, "It's quicker than doing a collage to show them what an image will look like. I can either do a printout on a color inkjet printer, or use a Polaroid Palette film recorder to shoot a transparency or Polaroid. In fact, while working, I can shoot progressives, showing a variety of ideas and concepts."

EXPANDING HORIZONS

In the last couple of years Keenan has started doing 3D and animation. "It's not that I'm moving out of print media, but I'm taking it further than I can go with just a camera", explained Keenan. "I'm going electronic because I have to compete with the Scitex. I know how the Scitex works, I've sat there with the operators. My Amiga is a baby Scitex. I can do pretty much what they do, only I can't do it in as high a resolution as they do."

"What I have learned is the basic principals, and that lets me sit down with a Scitex operator and make him jump backwards through hoops. For me it was self-defense. If my image was going to end up on a Scitex then I had to be able to go in there and talk to the operator rather than be a victim. I wanted to have enough input so that the final image was what I did, not just what someone thought I did.

QUALITY CONTROL

One issue that was raised in talking with photographers who have looked at getting their own computer graphics systems is the quality of the resultant image. The Scitex and similar machines are out of reach of any individual photographer, but consumer machines like the Amiga can't match the power of a system that costs in the high six figures.

When I asked Rosenthal about the image quality he could get using the Amiga he told me of a recent project he had just completed, a magazine cover that was a combination of digital art and photography. "It was a sword and sorcery theme of a woman warrior with a sword coming out of a vortex in the New York harbor," Rosenthal said. "With 24-bit processing boards, the image was starting to look too good. We started with photographs, digitized onto the Amiga, and combined the elements there. It didn't look 'computer' enough, so instead of processing the image out through the film recorder, I photographed it directly off the screen. This gave the final image that sort of scan-line, pixelated look which reads 'computer.' That's what the client wanted."

According to Rosenthal, the clients are perfectly happy with what they get. The only time you run into problems is when they expect it to look computerish and it doesn't. Otherwise they want it to look just like conventional images. Keenan concurs, "People are desperate, by the time they get to me they will do pretty much what I want. In special effects there are not a lot of people they can go to. Usually it's a problem-solving situation where they give you the problem and then run like hell. All they care is that you solve it within budget. How you solve it, they really don't care, and if you tell them how you solved it they don't understand."

For Keenan, there is an advantage in the resolution of the Amiga. A lot of people want images that look like they were done on a computer. Without pixels they don't believe it. "For ten years I was faking pixels, now I've got a computer and can shoot

images with pixels. Image Bank sells my images and they sell a lot of computer-generated photography, shot right off the Amiga." Keenan claims that about a third of the images they sell for him are computer graphics. When you consider that computer-generated images are a lot less expensive to produce, that's a remarkable return. "I can be just messing around on the computer, and when I see something I like, I just press two keys and it shoots a slide for me. It's not full production quality for some things, but for some things it's exactly what they are looking for."

MechWarrior by Larry Keenan

HIGH QUALITY

The issue of the Amiga's quality may soon disappear completely if the vision of Bob Miller comes to pass. Miller is the president of ChromePrint, a photo lab in New Jersey. Over four years ago he got interested in the Amiga. He became an Amiga dealer, and is now working to build a high resolution graphics system around the Amiga. His idea is to use the Amiga to retouch at very high resolution and then output to film recorders. This would become part of a service bureau called Digital Depot, specializing in Amigas.

The system he is putting together takes advantage of the Amiga's expandability. By adding in a very high speed Sang transputer board (running at 15 MIPS) the concept is to look at the entire image in low resolution, but to do the retouching at high resolution, working on only a part of the image at a time.

He is also working with a company called Guttzeit Graphics to develop color separation capability for this system. Edgar Guttzeit was a partner with ImageSet, a pioneer in computer graphics color separation technology. What he intends to end up with is 8X10 high resolution film as the final image. All of this is planned to come together in a workstation that will create photo comps at very high resolution. Right now the only way to get those kinds of results is to use a Quantel Paintbox as a front end to a Scitex. The Paintbox is far beyond the reach of any single photographer, but the Amiga system won't be.

The most recent thing he is working on is connecting the Amiga to the new Canon color copier. It has a 11X17 platen, and operates at 400 dots-per-inch. It can be used as either a scanner, a copier, or as a printer. When you combine the copier, the Sang board, and the software he is creating you end up with a complete digital color retouching studio that can scan things in, retouch them, and then print them back out. With the addition of a high speed modem, you would also have a color fax machine. This system is the core of what Digital Depot is planned to be. He hopes to have five hundred of these systems set up across the country. Color fax systems cost $25,000 right now, and all they do is fax.

ONLY AMIGA

There are other graphics-capable computers available. When I asked why Keenan and Rosenthal had chosen the Amiga, they explained that it provided a very cost effective solution, with an excellent mix of programs suited to the needs of a professional photographer.

According to Rosenthal, the Amiga is extremely good, and it's extremely affordable. "The designer's idea was to create a computer that's interesting and they did it. Not in pure computing power, but the graphics ability of the Amiga is ahead of anything on the market, not just in its price range, but in the reasonable price range. Of course the other fact is that since the Amiga is not very expensive, the software can't be too expensive, the peripherals can't be too expensive. That makes the tools accessible. Since the Amiga is graphics driven, it forces developers to create for that field, to create graphics programs."

"Everything is a tool, you use it as appropriate. Some photographers are afraid of new technology, others embrace it. I use traditional photography when it's appropriate. I was in the Philippines for a month, photographing the children just after the revolution, with sponsorship from Kodak. All I used was traditional cameras. It's just a matter of what's right for the particular assignment."

Keenan agrees. "I've looked at other systems, but they are not aggressive enough. By that I mean for the kinds of stuff I'm doing the other systems are way overpriced. The developers of the software and hardware have kept the prices within reason so you can get a pretty good facility together for not that much money."

"I can also do my studio management on the Amiga. I keep my bookkeeping on it, my stock file records on it, all my correspondence on it. I also do animation with sound on the Amiga. I can take a motor drive sequence from my 35mm camera, digitize it, and make a movie. It's got TV quality to it, it's a great production tool."

"For photographers it's ideal since everyone knows that we are gadget freaks anyway, this is just right up our alley. It's still about solving problems, we just now use a little more electronics than before. That's the only difference. There is no mystique about it, it's just another tool."

If you are interested in contacting these professionals for the purpose of engaging their services, they can be reached at the following numbers:

Larry Keenan	415-495-6474
Marshal Rosenthal	212-807-1247
Bob Miller	201-864-4858

CyberPlay

ADVENTURE ROAD

After the death of "interactive fiction," as all-text adventures were dubbed by Infocom in their heyday, the new buzzword in the world of adventure is "interactive movies." Cinemaware established the field with *Defender of the Crown*, and *It Came from the Desert*, a takeoff on a Fifties science fiction movie about gigantic mutant ants, is the best game they've done since.

The Mayor of Lizard Breath, a small California town, must be convinced that the threat of the giant ants is a reality before you can sally forth to destroy them within the fifteen-day time limit. Doing so involves a variety of activities. Gathering crucial objects, such a tissue sample from an ant, is done by visiting the Ore Base, then the M-1 Mine, for example. You must also blast antennae off the ant, fight with knives, and score well at other well-conceived arcade games. At the end, you'll deploy troops on a Situation Map and fight the ants in a simplistic war game.

Besides an enjoyable story presented with captivating graphics, scintillating animation, and sizzling sound effects, *Desert* offers the puzzle-solving adventurer more challenges than most of Cinemaware's last half-dozen games combined. Clues are obtained in brief conversations, and experienced questers will get through it in a matter of days at most. Even so, this Amiga-only game is Cinemaware's first adventure in over a year that's as much fun to play as it is pleasing to see and is recommended for all interactive movie fans.

STARFLIGHT BLASTS OFF

Recently converted from MS/DOS, *Starflight* preceded the interactive movie trend. It's a six-character space quest in which you must discover the source of mysterious "magnetic fluxes" that threaten your home planet Arth. While seeking clues, you make money by rounding up minerals and collecting futuristic artifacts while roaming about the planets in your All-Terrain Vehicle. It also poses a time limit on the solution.

Starflight

Starflight unfurls a huge game world: there are 270 star systems with over 800 planets. The Amiga version features a colorful onscreen starmap that scrolls to show the universe from an interstellar perspective and simplifies judging distances and other logistical factors. C64 gamers, however, must consult a paper starmap frequently when cruising through interstellar space, a bothersome hindrance.

Your ship moves between the stars like a toy rocket sliding across a map. Clues are uncovered in conversations with members of seven alien races. Talking to them comprises *Starflight*'s most engaging pastime. Your "posture" may be set as friendly, hostile, or obsequious; this, and the posture of the alien you're talking to, determines the extent of the information you obtain. Space battles are simple and slow.

I never finished the MS/DOS game because its slow landing sequence couldn't be turned off, so I did appreciate the option of bypassing it on the Amiga. The C64 version automatically moves you directly from space to the planet's surface. The Amiga lets you save up to five games; the C64, only one. (The Amiga version does not support a hard disk.) There are plenty of visual specials but little real animation. Sound effects are sparse, and oddly enough, were better on the C64 than the Amiga.

The C64 version was chopped down a lot (no picture of your characters during creation, for example) and suffers from slow disk access (over four minutes to save a game). Having seen *Starflight* on four systems now, I can objectively call the Amiga version the best and recommend it for anyone with a taste for space. But it's only recommended for C64 gamers with lots of patience. A better bet for space gaming on the C64 is *Centauri Alliance*, designed by *Bard's Tale* author Michael Cranford.

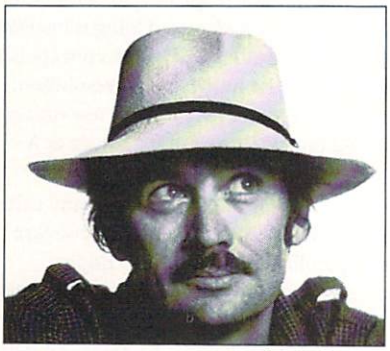


photo by Tom Ives

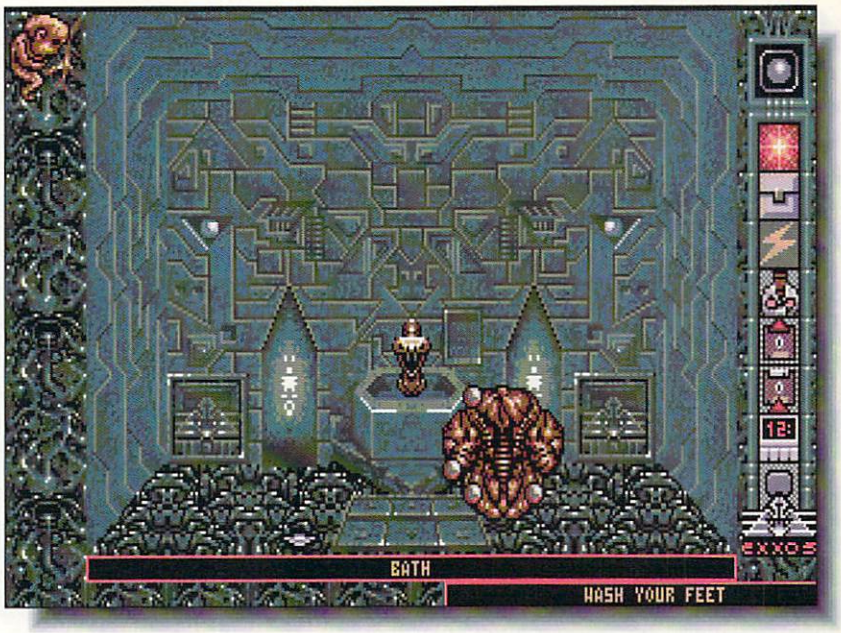
Shay Addams, "the world's foremost expert on adventure gaming™," is the publisher of the excellent gaming newsletter *Questbusters* ($18/yr., $24 Canada, $32 Int'l., PO Box 5845, Tucson, AZ 85703). He also owns more computers than you can shake a stick at, so he may occasionally mention a game he has played on the Macintosh (bleech!) or even on an MS/DOS computer (barf!).

CyberPlay

Second in the new Draconian adventure series from Data East and previously released in Europe as *KULT, Chamber of the Sci-Mutant Priestess* is a very hot, very European science fiction cyber-quest. As Raven, champion of the Sci-Mutant Tuner race, you must rescue your friend Sci-Fi, the essense of goodness and destined leader of your people. The young Sci-Mutant priestess was kidnapped by evil, blood thirsty Protozorqs. Only by surviving the five terrifying Ordeals of Deilos can you hope to free her.

Exquisite European-style graphics, thundering stereo music, cool sound effects, and a complex, gripping plot are among the high points of this game. A logically arranged, icon based interface helps draw you into the adventure. Raven possesses eight unique Sci Powers ranging from Brainwarp to Sci Shift to aid in the quest. Successfully completing the five challenging Ordeals means solving some tough puzzles.

Chamber of the Sci-Mutant Priestess is a must-have for adventuring cyberpunk fans. It will be on your top shelf for a long time to come. - Judith Kilbury-Cobb



CHAMBER OF THE SCI-MUTANT PRIESTESS
★★★★+

Data East
470 Needles Drive
San Jose, CA 95112
408-286-7074

TUNNELS OF ARMAGEDDON
★★★★★

California Dreams / EA
1820 Gateway Drive
San Mateo, CA 94404
415-571-7171

If you've seen *S.T.U.N. Runner* in the arcades, you get the idea of this arcade screamer. You're piloting a small craft through a series of twisting tunnels at speeds that will make your head swim and your stomach churn. (Don't even boot this game if you have any problems with motion sickness.) It's one of those completely engrossing games where I found myself edging closer and closer to the screen as I played, finally ending up making noseprints on it.

Racing through the tunnels isn't just a matter of steering; there are all sorts of nasties shooting at you and otherwise tripping up your progress. You can fight back, of course, and there are additional weapons, shields, and boosters (as if you needed any boost in speed!) along the way. The sound effects are extremely well done, adding greatly to the overall experience. The main play window is a long rectangle, and the only change I would make is to enlarge it a bit. *Tunnels of Armageddon* isn't a game you'll outgrow, either. If you somehow make it through all 20 levels, you can have the program randomize the tunnels to make an all new game. Great stuff! - Tom Malcom

CyberPlay

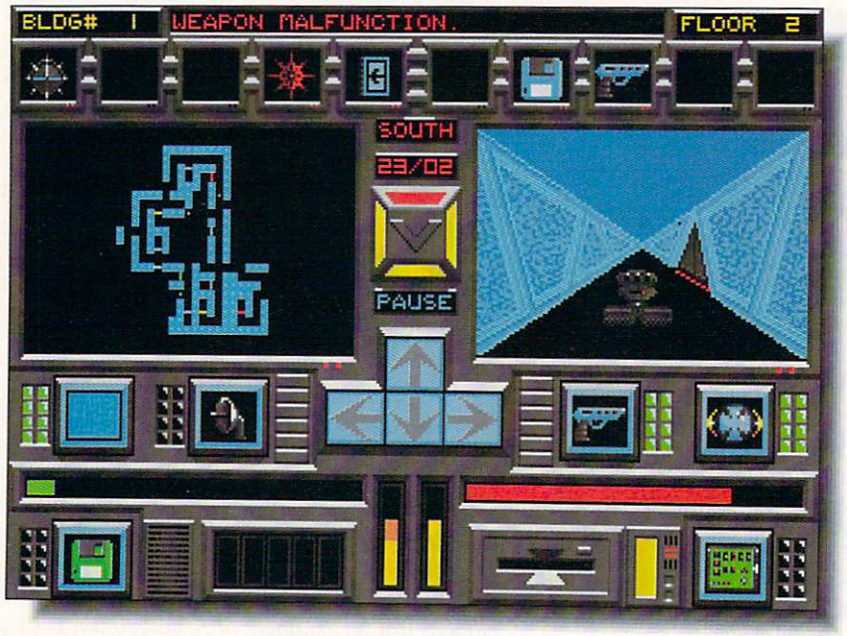
Splish Splash I was taking a bath, when a mutant shark swam into sight. Actually, as an *Aquanaut*, member of an elite team of high-tech deep-sea divers, you are investigating a series of strange happenings near the tropical Yendor Islands. The warm, blue waters here are home to a myriad of deadly aquatic species; poisonous jellyfish, pointy swordfish, hungry sharks, and aliens. Aliens?

Blood sucking, flesh eating, water-based aliens appear to be causing these occurrences. Divided into three stages, the first pits you against the finny inhabitants of Shark Reef. If you survive and make it through the Labyrinth, you still have to conquer the underground city and rescue the captives.

Animation and sound are realistically convincing. I loved the adorably animated reef fish. Joystick response is a little slow. A couple times I found my diver catching up with a creature before the blaster blasts did. More than mindless underwater-alien blasting is needed here. You'll need strategy and skill to get very far. As an arcade-adventure *Aquanaut* succeeds swimmingly! - Judith Kilbury-Cobb

AQUANAUT
★★★★

Miles Computing / EA
1820 Gateway Drive
San Mateo, CA 94404
415-571-7171



DAY OF THE VIPER
★★★★+

Accolade
550 South Winchester Blvd.
San Jose, CA 95128
408-985-1700

It has been a long time since a game has hooked me as badly as this one. I have about twenty disks with games saved (it's codewheel protected and hard drive installable) at different spots. The game is your basic maze-type shoot-em-up, albeit an exceptionally well done one. It's completely mouse-driven, has onscreen mapping, fast and easy movement, and intuitive object manipulation.

What makes *Day of the Viper* so special is its feel. I've always been a sucker for a good maze, and this is one of the finest. You are ostensibly controlling a small robot, the Viper, guiding it through the passages picking up disks to activate a computer system, while shooting or avoiding enemies. Better than any other computer maze, this one gives me the feeling of being there, I think because I'm seeing it through the Viper's sensors. The wealth of little details and objects also give credence to the overall experience. Like all exceptional games, the pleasure of this one is in the process of playing, not in winning (though I'd give up chocolate for a week to do it). *Day of the Viper* is one of the most playable games of the year. - Tom Malcom

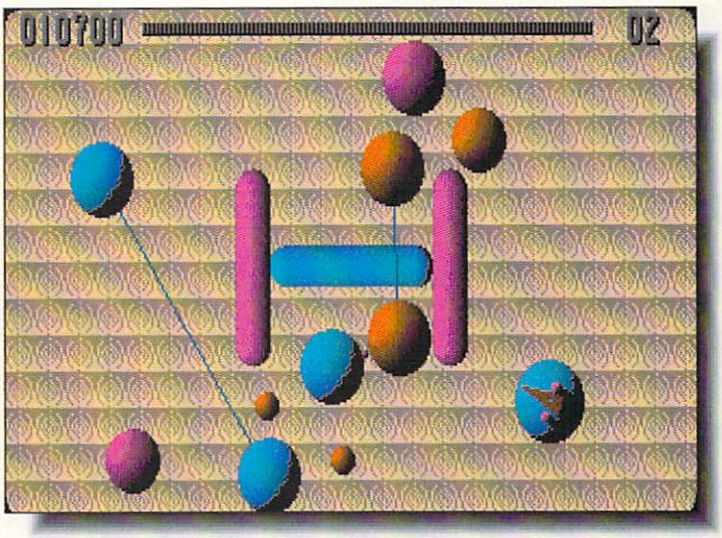
CyberPlay

THE GAME OF HARMONY

★★★★

Accolade
550 South Winchester Blvd.
San Jose, CA 95128
408-985-1700

I always cringe when I see the words 'New Age'; they make me think Shirley MacLaine and Harmonic Convergence. Now Accolade has released this strange, but very soothing game and dubbed it New Age. Well, I guess I'll have to get over my prejudice. The game has you shoving colored spheres (often connected by rubber bands) around the screen, either against time or in a relaxed solitaire mode. The physics take a little getting used to, but the game is an elegant and very playable diversion. - TM



CHRONOQUEST II

★★★+

Psygnosis
29 Saint Mary's Court
Brookline, MA 02146
617-731-3553

You are returning to your own era in this absorbing sequel to *CQI*, when your time machine's engines overheat and dump you in the middle of who knows when. They just don't make time machines like they use to. To return to your own time requires patience, puzzle solving, and a knowledge of French prepositions. The icon-based graphic interface is clumsy and doesn't allow much freedom to explore the sublime settings from history and myth into which you are thrown. Don't expect Psygnosis-level graphics and sound since this is an acquired title. - JKC

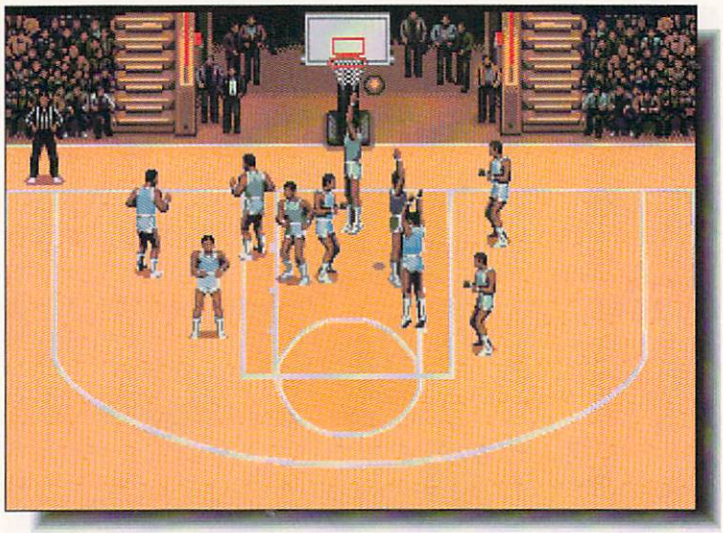
INFESTATION

★★★

Psygnosis
29 Saint Mary's Court
Brookline, MA 02146
617-731-3553

Yet another in the recent series of virtually unplayable games from Psygnosis, I think *Infestation* probably has all the potential to be another *Starglider II*, but I've spent hours trying unsuccessfully to find my way into the supposed underground tunnels. If I had a higher frustration level I might try some more. As it is, I give up. It's time for Psygnosis to stop trying to outdo the other publishers and start putting out games the average person can play. I, for one, am tired of wasting my time on these beautiful but impossibly difficult games. (See Game Tips for a hint on getting underground) - TM

CyberPlay



TV SPORTS BASKETBALL

★★★★+

Cinemaware
4165 Thousand Oaks Boulevard
Westlake Village, CA 91361
805-495-6515

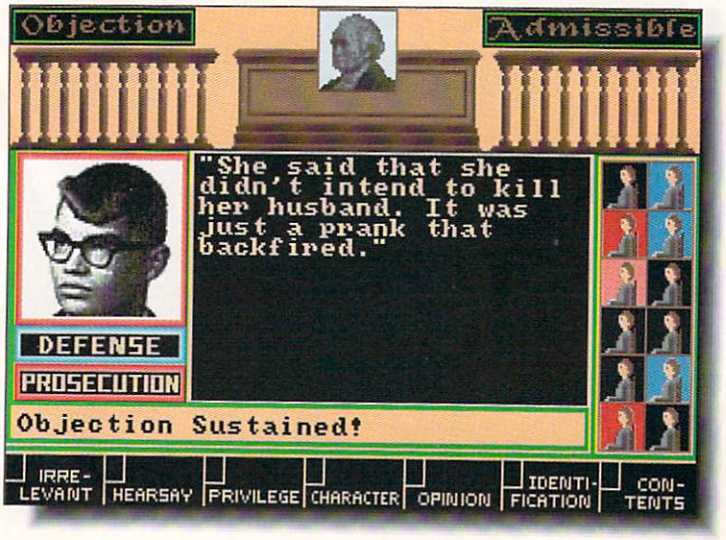
Slam dunks, three pointers, free throws, player substitutions, post-season play offs; *TV Sports Bball* has them all. The fast paced, five-on-five action is exceptionally realistic. Even non-roundball fans will appreciate the smooth animation, excellent sound effects, and attention to detail. Cinemaware's *TV Sports Basketball* certainly lives up to the high standard of sports simulation excellence and authenticity set by *TV Sports Football*. - JKC

JIGSAW PUZZLEMANIA

★★★

Artworx
1844 Penfield Road
Penfield, NY 14526
716-385-6120

Aside from a couple of serious, but not fatal, programming errors (be sure to boot with the program disk and resize the CLI window to find the disk icons underneath), this is a very nice timekiller. It will generate jigsaw puzzles with real interlocking pieces, anywhere from an easy 18 to a nearly impossible 200 of them. The pieces are shown in pages, an elegant and practical solution to presenting them, and placing them is by click and drag. You can either use the provided pictures, or make your own within certain guidelines. - TM



COURTROOM

★★★

FairBrother & SoeparMann
5054 S. 22nd Street
Arlington, Virginia 22206
703-820-1954

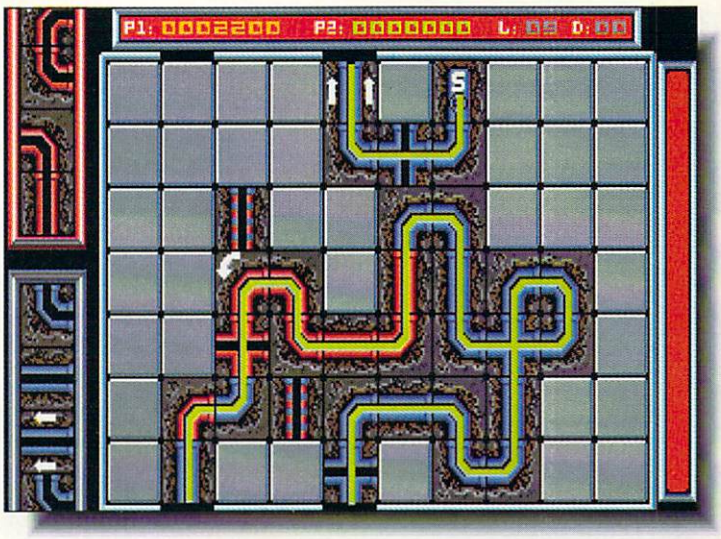
For aspiring Grace Van Owens (or Victor Sifuentes), *Courtroom* is a simulation of a jury trial. Prosecute or defend a docket of twelve cases, ranging from Arson to Tax Evasion, against a friend or your computer. A crash course on rules of evidence and judicial procedure is presented in the manual for legal neophytes. The graphics are crude and there is no sound, but your quid pro quo for putting up with these minor irritations is an entertaining, educational jaunt into our jurisprudence system. Verdict: An original, well implemented concept. Court adjourned. - JKC

CyberPlay

PIPE DREAM

★★★★

Lucasfilm
P.O. Box 2009
San Raphael, CA 94912
415-662-1800



Lucasfilm seems to have found the right Amiga-track with this charmer of an arcade game. The premise is simple enough even for kids: put together lengths of pipe that appear in a dispenser (seldom, maddeningly, in the order you need them) before a slimy substance called *flooz* gets to the end of what you've put together. It always, of course, flows too fast to keep up with, but that's what will keep you coming back. The graphics, sound, and music are nicely done, and the play madly addictive. I'm glad to see a winner from Lucasfilm. - TM

BREACH 2

★★★

Omnitrend
P.O. Box 733
West Simsbury, CT 06092
203-658-6917

I really liked *Breach*, a sci-fi strategic adventure, and was looking forward to the sequel, *Breach 2*. I was to be disappointed, however. The familiar homily "if it ain't broke, don't fix it" certainly applies here. Graphics have been marginally improved, as has the game file management system, and music has been added. Ten scenarios as well as a scenario builder are still included. Unfortunately, the original, logically arranged point-and-click interface has been replaced. The dreaded conversion-itis strikes again. *Breach 2* wasn't developed with the Amiga in mind, and it shows. - JKC

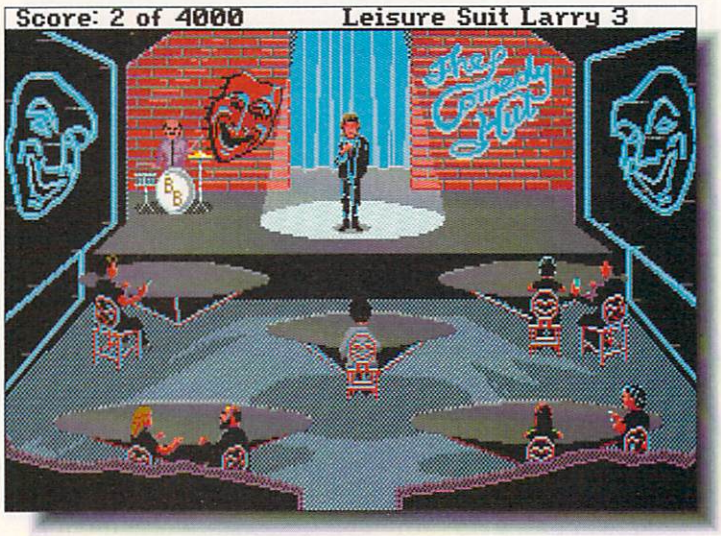
IRON LORD

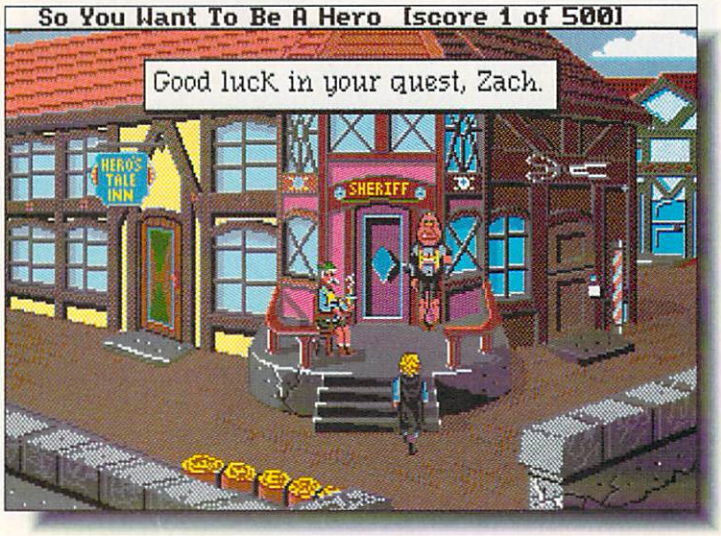
★★★

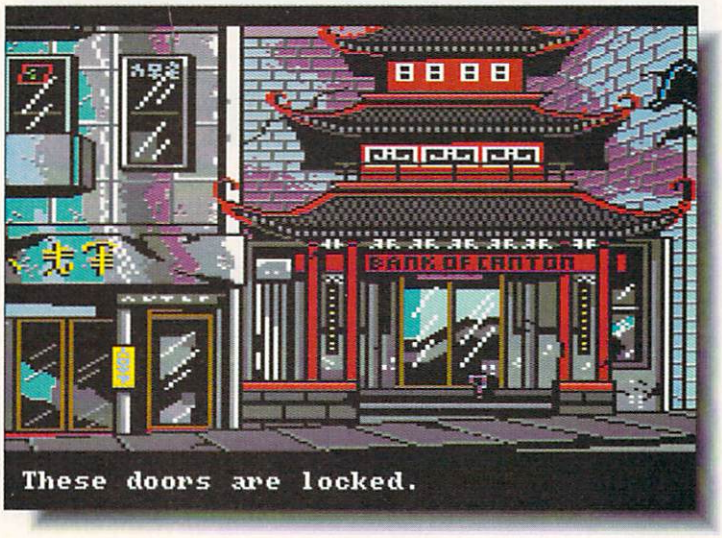
UBISoft / EA
1820 Gateway Drive
San Mateo, CA 94404
415-571-7171

Iron Lord is a graphic adventure which could have been quite good. It has the prerequisites; a plausible plot, some eyebrow puckering puzzles, some head scratching strategy, and some arcade action. What it lacks is scope. The gods-eye view action window is only as big as a jumbo postage stamp and your heroic Iron Lord is but a minuscule mite scurrying about the countryside. The large still graphic image and the small action window should have been reversed to increase playability. An ok quest, if you don't mind squinting a little. - JKC

CyberPlay







LEISURE SUIT LARRY III ★★★+
HOYLE'S BOOK OF GAMES ★★★
HERO'S TALE I ★★★+
MANHUNTER 2: SAN FRANCISCO ★

Sierra On-Line
P.O. Box 485
Coarsegold, CA 93614
209-683-6858

The biggest problem I have with Sierra games is that I still like them very much. The writing and plots are hysterically funny, but I don't play them through because the graphics and animation are so below Amiga standards that they not only make playing difficult, but give me a feeling of being cheated. I've recently been looking at *Leisure Suit Larry III: Passionate Patti in Search of the Pulsating Pectorals*, *Hero's Tale I*, *Hoyle's Book of Games*, and *Manhunter 2: San Francisco*. The ratings I've put on them show just how disappointed I am with Sierra's entire product line. These are not Amiga games; they are IBM games that have been poorly ported to the Amiga.

For some time, Sierra has been promising better graphics in their games and to some extent (with the appalling exception of *Manhunter 2*), they have kept that promise. The semantic catch here, though, is better than what? When the starting place is little better than blobs on the screen, then recognizable objects are 'better'. The animation is a continuation of the same story; one of my fondest hopes is that Sierra's programmers will someday discover the blitter. The animation is jerky, often flickery, and obviously all done in software. I can create smoother animations with *DPaint III* in about five minutes than anything I've seen in Sierra's titles.

I do realize that Sierra is in a period of transition and they do seem to be trying to upgrade the look of their games. What I object to is that they still release drek like *Manhunter 2*, which wouldn't even be considered a decent C64 game. *Leisure Suit Larry III* is my favorite in the series. It's witty, crude, and would be thoroughly delightful if the graphics were up to par. *Hero's Tale I* is the same way, and could be a significant entry into the daggers-and-magic adventure field, but again, the graphics and animation are serious flaws. *Hoyle's Book of Games* has versions of card games I'd love to play on my Amiga, but I don't like these lethargic PC ports enough to devote any playtime to them. There are PD versions of most that are more fun to play.

Sierra claims Amiga games are the fastest growing segment of their sales. It won't be that way for long unless they get going, and quickly, on bringing their games up to Amiga standards.

- Tom Malcom

CyberPlay

COMING SOON

Here are the latest and greatest Amiga games announced by your favorite game companies. Titles marked with an asterisk (*) have been received in our offices by presstime.

Accolade: *Jack Nicklaus Course Disk II*, Day of the Viper*, Blue Angels*, Harmony*, Test Drive II: European Challenge*, Hardball II*, Heat Wave*, Search for the King, Altered Destiny, Stratego, Ishido, Jack Nicklaus' Unlimited Golf & Course Design*

Avatar: *Heart of the Dragon**

Broderbund: *Prince of Persia, Where in Time is Carmen Sandiego?, Wings of Fury, Wolf-Pack*

Data East: *Full Metal Planet, Bo Does Baseball, The Dream Team: 3 on 3 Challenge, ABC's Monday Night Football*

Eagle Tree: *Chinese Chess**

Electronic Arts: *Turbo Outrun** (Sega), *Sword of Aragon** (SSI), *AD&D Champions of Krynn** (SSI), *Their Finest Hour: The Battle of Britain** (Lucasfilm), *Pipe Dream** (Lucasfilm), *The Secret of Monkey Island* (Lucasfilm), *Secret Weapons of the Luftwaffe* (Lucasfilm), *Unreal* (UBISoft), *B.A.T.* (UBISoft), *The Untouchables* (Ocean), *F29 Retaliator* (Ocean), *Battle Command* (Ocean), *Night Breed* (Ocean), *Billy the Kid* (Ocean), *Lost Patrol* (Ocean), *DragonStrike* (SSI), *Storm Across Europe* (SSI), *Overrun* (SSI), *AD&D Pool of Radiance* (SSI), *Waterloo* (SSI), *Powermonger* (Bullfrog), *Wings* (Cinemaware), *Brainblaster* (a Cinemaware two-pack including *Xenon 2* and *Bombuzal*), *Tunnels of Armageddon** (California Dreams), *Street Rod* (California Dreams)

Electronic Zoo: *Treasure Trap, Tennis Cup, Spherical*

Innerprise: *The Plague, The World of Turrican, Globulus, Time Guardian, Aviators*

Interplay: *CheckMate, Battle Chess II: Chinese Chess, Lord of the Rings, Vol. I*

Konami: *Blades of Steel, Double Dribble, Metal Gear, Castlevania, Super C*

Media Technology: *Enter: The Terminator* (Bethesda), *Damocles* (Novagen)

Microprose/Microplay: *M1 Tank Platoon, Silent Service II, F-19 Stealth Fighter, Railroad Tycoon, F-15 Strike Eagle II, Sword of the Samurai, Command H.Q., Pirates!, Midwinter* (Medalist), *Starlord* (Medalist)

Origin: *Bad Blood, Ultima VI*

Psygnosis: *Puggsy, Cutiepoo, The Killing Game Show, Beast II, Carthage, Tempus* (working title), *Matrix Marauders, Anarchy* (Psyclapse)

Sierra: *Leisure Suit Larry III**, *Hero's Quest I**, *Manhunter 2: San Francisco**, *Conquests of Camelot, The Colonel's Bequest*

Software Toolworks: *The Hunt for Red October, Loopz* (Mindscape), *Days of Thunder* (Mindscape), *Myth* (Mindscape), *Superbike Simulator* (Mindscape), *Harley Davidson: The Road to Sturgis* (Mindscape), *Star Trek V: The Final Frontier* (Mindscape)

Spectrum Holobyte: *VETTE!, Welltris, Flight of the Intruder, Tank, Stunt Driver*

Tengen: *Klax, Toobin', Escape from the Planet of the Robot Monsters, Xybots, A.P.B., Rolling Thunder, Hard Drivin'*

Tiger Media: *Airwave Adventure*

Virgin/Mastertronic: *Greg Norman's Shark Attack**, *Spirit of Excalibur, Spot, Wonderland* (Magnetic Scrolls), *Monopoly, Off Road, Quasar*

GAME TIPS

Here are some secret "side doors" and "back doors" to your favorite Amiga games, discovered by .info *readers!*

Drakkhen: All armor, treasure, and weapons inside palaces are restocked every time you enter. Send your strongest character in to grab the equipment, then distribute it among your band. If you need some quick gold, do this over and over, then go see the weaponsmith. - Derek Godat

Drakkhen: To gain extra points while constructing your character, boot the game using Disk 2 to begin the character generation sequence. When the program asks you to name your first character type *31415927*, hit return, then type *supervisor.* Then give your character a name. You'll have higher level characters that will be a lot tougher to kill.
- Zach Meston

Infestation: While not a side door we'll print this one anyway since there has been considerable confusion about how to get into the underground complex, and because Psygnosis was kind enough to provide us with the solution. First, find a small, upright rectangular box with two flashing squares on it; that's the computer terminal. Face the flashing squares, hit F2 to bring up the computer, and enter the words *KAL SOLAR* to activate it. Hit F2 again to exit. On your way to the computer, you should have passed a shower-like structure. That's the transporter. Go back to it and enter it being very careful to face exactly in the direction of the flashing arrows. This will take you to the complex.

Batman: On the title screen type *jammmmm* (type at least 5 M's). The title screen should turn upside down. Now press the joystick button to start the game. You will have unlimited lives and you can press F10 to skip to the next level. Pressing F9 will restart a level. Press F8 to see a message. Restart gameplay by pressing F1.
- Ron Paschen

Sim City: To start out with as much money as you want, keep embezzling (shift then type 'fund') as soon as the game starts and before you have built anything. Keep this up until you have as much money as you want. The game will keep earthquaking but it won't hurt because you haven't built anything to destroy yet.
- Chris Garnett

Indiana Jones (the Action Game): On the title screen type *jiehova.* Now pressing 'l' skips a level, and keys '1' and '2' take you to different stages of each level.
- Zach Meston

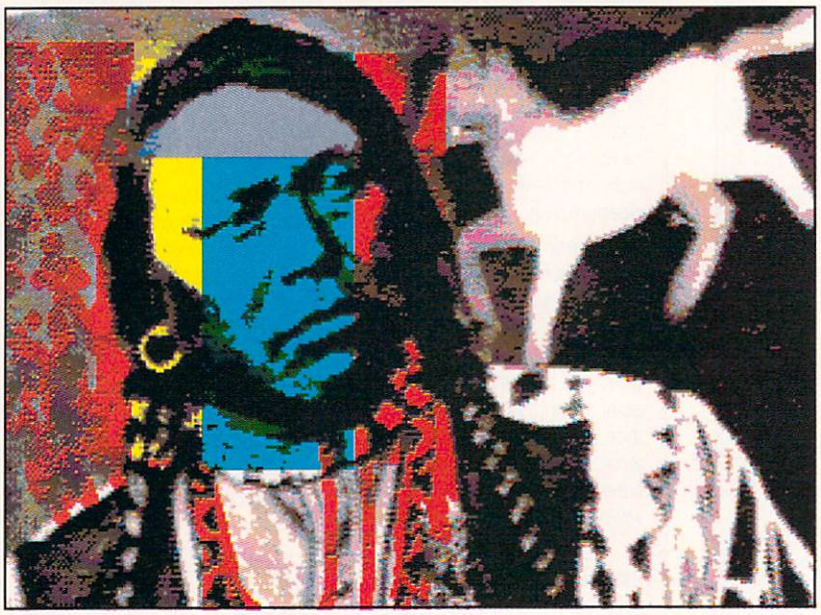
Space Ace: To see the demo mode (as with *Dragon's Lair*) type *dodemodexter* when Dexter appears with your points and lives data. - Mark Janzen

Forgotten Worlds: On the title screen, type ARC and hit the "HELP" key to start the game. Now during play you can hit 's' to go to the shop or 'n' to skip a level. - Zach Meston

Chop N' Drop: For a good laugh, push the 't' key when fighting and your guy's pants will fall down. Pressing 'f' will cause your opponent's pants to drop when he is kicked. Pressing the's' key allows you to change the color of the shadows from the fighters.
- David A. Chobotar

Share your "secret tricks" with .info *readers! Send to:* .info *Mania, 123 N. Linn St., Ste. 2A, Iowa City, IA 52245*

And The Artists Will Rise



Indian by Laurence Gartel

by Jeff Lowenthal

Laurence Gartel is everywhere. His computer art appears on magazine covers, in galleries, and a book devoted to his work: *Laurence Gartel- A Cybernetic Romance*. Gartel himself often appears as teacher, lecturer, and demonstrator, as at the Computer and Electronic Publishing Show, where enthusiastic viewers even attempted to make off with his work. He's worked with many machines, including exotic million dollar systems, but today he owns an Amiga, and it's his favorite. Of interest to *.info* readers, beyond the uniqueness of his work, is his philosophy.

.info: What did the Amiga mean to you when you saw it for the first time?

Gartel: I was first shown this computer in '85, and I was already working on million dollar systems at places like the Jet Propulsion Laboratory. So I said, "Oh, that's no big deal." It's like someone who's driving a Porsche, and you show him something else, and he says "So what? I've got this Porsche" I was spoiled, I hadn't realized what the Amiga enabled you to do, and that you could own it yourself. It was only later on that I actually bought one. It's kind of funny to think that I bought an Amiga after I was involved with computer graphics for 12 years. Most people would think I started with an Amiga, and graduated to a Digital Effects Video Palette. But I started at the high end and wound up with an Amiga. I mean, I tell people this machine is emulating devices that cost $250,000 with a $150 program called *Deluxe Paint*. It's as simple as that. Or to take *Photon Paint* and wrap things on a cube; those big machines couldn't do that. And that's where the technology leveled off.

.info: What do you think of the Amiga 3000?

Gartel: I was at the unveiling, and it looked nice, a terrific machine. I wrote Harry Copperman that they should give me one, after all I've done for them. I told him that salespeople don't sell machines, creative users do. I mean, these people are selling machines, and they don't understand what this whole thing is about.

.info: And that is...

Gartel: In the last 2000 years, if you look back and ask, "What was created on this planet?" The giant pyramids, and maybe the Acropolis. We haven't done zip in the past 200 years. The thing we're left with is sending a man to the moon, our technology.

What it's about is freeing up spirits so they can play in a free world. And the way out of society's trap is to have this technology. I know that when you work on a computer, and you start to do creative things, - not working for some insurance company, working in a creative fashion - you work and learn at the same time. Where else can you do that? That kind of experience raises people's sensibilities, and things happen to them. I'm not saying it's the end-all, but it's going to help them get along with other people, smile more, be happy and fulfilled. Something *does* occur, in a religious manner.

.info: So Everyman can use a computer and create...

Gartel: That's the point. When I teach my students, I don't evaluate their art. I just want them to "get it." When you see these people starting out, they're very quiet kinda folk, and at the end of the class a guy becomes a shining star, he's outgoing and talking to people. He came in totally introverted, and all of sudden he's opening up! That's my goal.

.info: What's most exciting about the Amiga?

Gartel: It's accessible to anybody, at a low price. To think that I have a computer here that I bought so cheaply, that can do all this stuff. That feeling of euphoria - that's what everyone is looking for - and communicating it. It's like telling your best secret to others. There must be millions of grandmothers who were wonderful cooks, who made one great thing, and they never wrote it down, how to do it, and it died with them. It was their little contribution to life, and it's lost. How do others enjoy it?

.info: Is this art for the masses?

Gartel: Definitely. With these tools it's more about the experience of one learning constantly. It's like writing a program, and seeing the possibilities, and acting on it. And creating things that have never been seen before. To me, that's the value of computer art. It can be done on an Amiga, on a Mac or a Sun. But the Amiga makes it the most accessible to *anyone*, and that to me is the beauty of the machine.

.info: What were your feelings when you discovered *DPaint*?

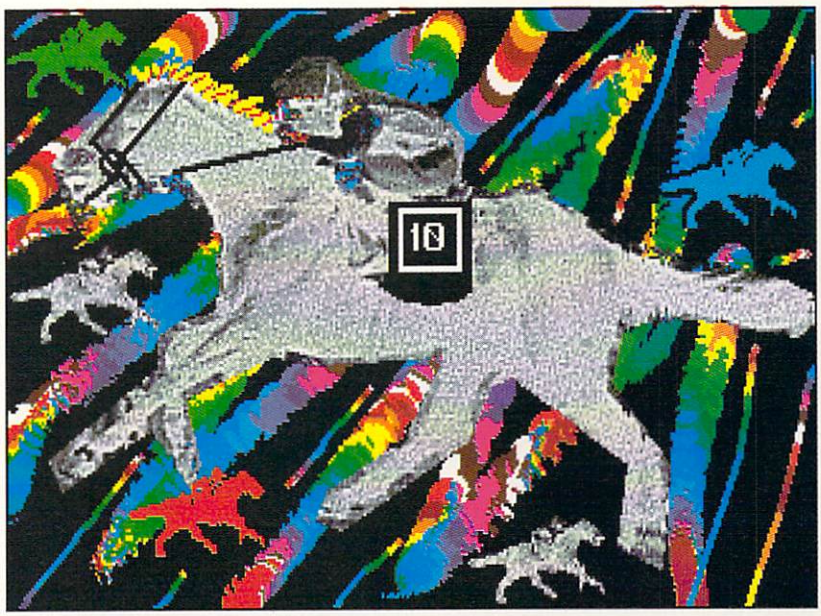
Gartel: My first opportunity to use it was at the University of South Florida, where I was teaching. I had used an Apple II in 1980, but that was like seven bogus colors, horrible. I didn't even think of it as color, even though I saw it on the screen. The concept of being able to see something like *DPaint* - my God! Unbelievable. all those colors for such a low price. That was the most incredible thing, and that you had these different resolutions that you could work in.

.info: Did you ever foresee having that kind of power on your desk?

Gartel: Never.

.info: What does that mean to you personally?

Gartel: Well, I used to say I would never own equipment because of the constant progress. But if you want to swim, you have to jump in the water. Owning it means I can do anything I want to do, 24 hours a day.



Race Horse by Laurence Gartel

I work at the Experimental Television Center in New York. They have all this bizarre stuff and at the end they hook it up to an Amiga, and you capture what you do by saving it to disk. Here I used to go to this research lab, like 200 miles away, and spend a week there, and I had to photograph the screen. But now I can take those images and bring them home and work on them. They don't have an inkjet printer there, so I can do it at home.

.info: There seems a great difference in the vibrancy of the work you do on the Amiga as compared with the other machines. Did you decide what you wanted first or work in a mode that the computer/printer combination best supported?

Gartel: The second. My idea was to push the machine to its limits, to create the work that would do that. It's like tuning in to a fine instrument. When you use the Amiga connected to the Xerox 4020 printer, that's just a marriage like no other. The color that's output is highly saturated. I'm a very primary color guy. So I like that connection, there's a very pure yellow. One of my colleagues deals with pastel, muted tones. I'm not like that, I could never use the printer for that purpose, because to me the power of that machine is the vibrancy of its color. If you wanted muted tones, you'd get a very dithered pattern, and if I wanted that,

The way out of society's trap is to have this technology.

Ken In Tokyo by Laurence Gartel

I'd probably go to photographing off the screen, rather than the 4020.

.info: Now, you started as a traditional painter...

Gartel: Yes. I started with CrayPas and charcoal; I went to art school. The school that I went to when I was six was called Pels School of Art. I was back in that neighborhood recently, and now they have something called the Pels School of Television Arts. It's kind of full circle to me, and I appreciate that sort of thing.

When I look at abstract painting today, if I look at Jackson Pollack, compared with someone out there today, it's like the early guys who were doing it did it already, and made the statement.

.info: And what are *you* doing that's gonna be different?

Gartel: To me it's been dead since 1975, when I saw Mark Rothko, a color field painter. And the way he painted, it's like he *said* it. It's over. What the hell is someone going to do in abstract painting that I haven't seen?

If I've seen something before, it's like me telling you the same sentence a hundred times: you understand it and then you go further. That's what I mean when I say what I do about painting today. My thought about painting is, it's quite primitive. Sure, it's very massaging, applying paint to canvas. In essence, it's barbaric. But if it strikes an emotion in you, then to me that's what art is. It's about the level of communication, how much you can communicate.

I think doing anything creative gives one a spiritual thrill and excitement. But you have to grow. It's been fifteen years since I've put paint on canvas. I live every day to the max. I don't want to keep repeating that sentence.

Art is about exploration, the freeing of the spirit. The only way to do that is to cut through the forest, which leads you to a new place. Find the chalice or whatever, like *Raiders of the Lost Ark*! Go find that golden moment. Everyone who's involved with computers is doing that, to some degree.

.info: What about the spirituality?

Gartel: You almost have to be spiritual before you can find spirituality.

.info: A paradox...

Gartel: Yes, to do it, you almost have to be it already. People who are taking to this thing are learning every time they get on their machines. I don't care what machine it is, they're learning and they're growing. To me that's very important. An artist's mission is to enlighten others. That's his goal, he's a communicator. I'm not money-driven, I'm *duty*-driven. If I was into money, I could have stayed with my father's business, or opened a pizza restaurant where you make $1.50 every five seconds. I want to know that every day I learn and grow.

I guess a renaissance is built on the merger of art and science. I'm moving more into learning the engineering end of this stuff, not because I wanted to - you're forced to. And that in itself becomes another whole level of enjoyment, because the more we know, the more we can act on it.

People always try to relate my work to painting. I was at the home of a collector of fine paintings, who's taking me on. And people there said "It's beautiful work, but of course it will never replace painting." Well, why? The master impressionists were just a group of people.

.info: What would they be doing today?

Gartel: Yes. What would you expect Picasso to do today? We are the masters of tomorrow. Why can't you have a living legend? (Laughs) Why not? I mean, I don't want to be dead before I'm recognized.

.info: What are you working on now?

Gartel: I'm doing more autobiographical things. I'm a collector of paper. Anybody in art has to save paper.

A renaissance is built on the merger of art and science.

I found things at home like a postcard I sent my mother from camp, my mother's report card from 1937, things of that nature. I'm scanning these things, and I'm going to make pieces out of them.

.info: Artifacts...

Gartel: Yeah, meaningless to you, but fascinating to me.

.info: It stimulates your memory...

Gartel: Yeah. They portray more pictures than you can ever photograph. I've got a bill from a pair of pants my father bought. First you think of the pants, secondly you think of his buying them, how he looked in them.

When people talk about computer graphics, scanning, you may not think exactly in those terms. If you were a painter. you wouldn't even come to that sort of thing. But the concept of scanning makes further thought. I find time more circular now, because I have such a handle on capturing something so instantly from the past.

.info: There's a point of view that computers and laser printers have made it possible to produce beautifully-formatted bad writing in no time. Is there a parallel in computer graphics?

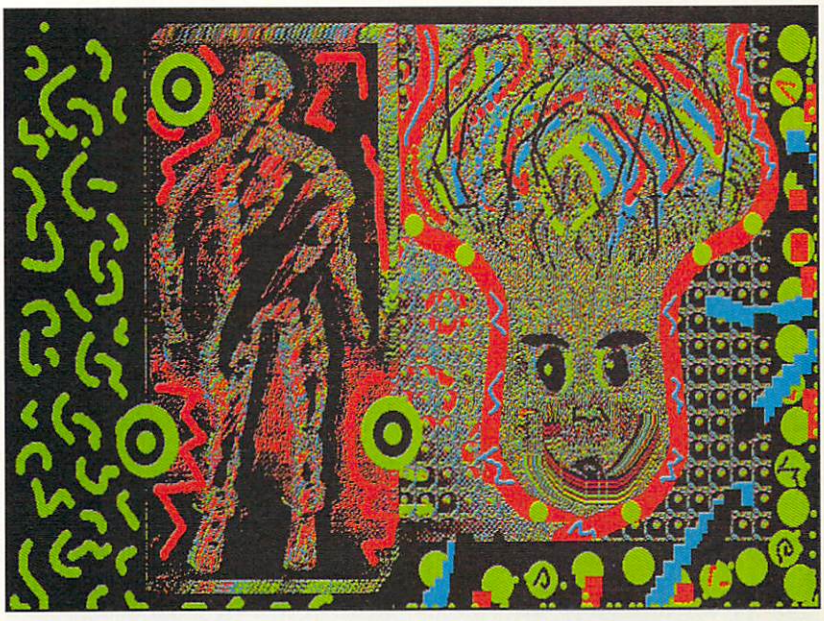
Gartel: Sure. The parallel is BAD ART facilitated by sophisticated tools that allow you to draw, but not necessarily produce a communicative statement. If someone draws something and it doesn't evoke some kind of emotion, who cares?

.info: Are we going to reach a plateau with the Amiga where you're going to be able to say, as with painting, "Show me something I haven't seen"?

Gartel: Well, software has sort of levelled out, at least in the paint area. But there are wonderful animation and 3D modelling programs. The 3000 is great. The multimedia possibilities are tremendous with the new authoring system.

.info: Where does the Amiga have to go to remain an exciting platform for the artist?

Gartel: We need more software. People have to write programs, including the people who write for the Mac. It's amazing that everyone isn't supporting this machine. It seems as if it's supported only by its users. I see little huddled groups of enthusiasts, like an underground. There has to be continuing cultivation,



Man & Doll by Laurence Gartel

and support from Commodore.

Some people say, "Why do more?" like one program does it. *Deluxe Paint* was like the greatest thing that's ever been written. But let's have another version. People have to be constantly stimulated, with upgrades and new things. We have to see a lot more come out of that 3000. Exciting things. We have to be open to new things.

We need 24/32 bit color, and higher resolution. We need more compatibility. Like being able to initialize a disk in the Amiga, and put it into a still video camera which could be programmed to save to any format you wanted. Then you could put it directly into the Amiga and work on it. Or another computer. Have everything work together. For example, why can't I use *Doug's Math Aquarium* and the Mac *Photo Shop*, and put it all together?

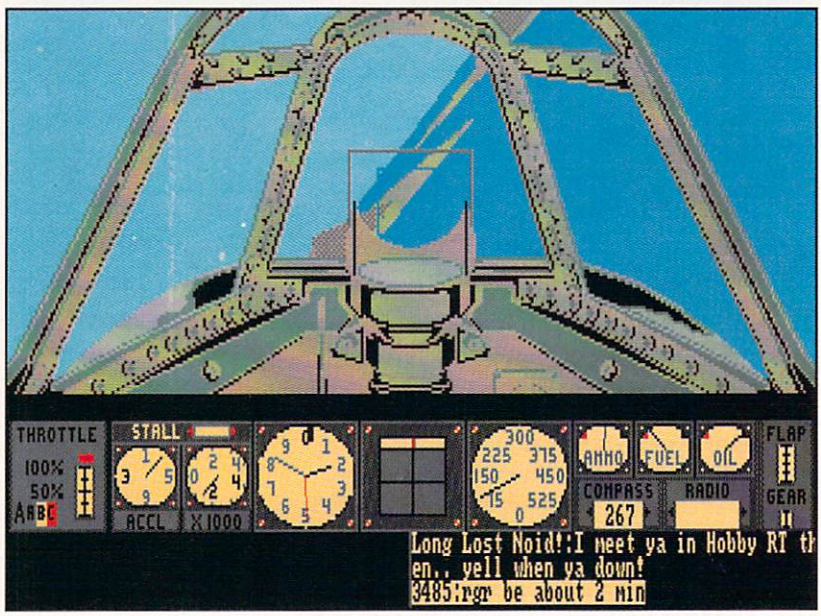
.info: A final thought?

Gartel: This has been a really important conversation we've had, because we're discussing philosophical issues and not just *DigiView* and printers. I think that may be a tremendous thing for *.info*, or they may say "Why didn't you stick closer to the Amiga stuff." But maybe this will reach a much broader audience.

Real truth is going through with this technology. The artist's truth will come through, and the artist will rise. And the artist is the only one who can awaken the populace. I believe if the artist comes through, then the universe can change. ★

It's amazing that everyone isn't supporting this machine.

Multiplayer Games on GEnie



GEnie online flight simulator Air Warrior.

by

Peggy

Herrington

Whether you're looking for action, stealth, or make-believe, computer gaming these days is a solitary experience only if you want it to be. Commercial information services support multiplayer games, and one with a surprising variety of entertainment products is General Electric's consumer information network, GEnie. Offering everything from plain text-based brainers to elaborate animated adventures with realistic sound effects, GEnie - in addition to providing a plethora of more practical pursuits - is a gateway to interactive gaming in real-time with real live people.

Glorious Graphics and Sounds

That the Amiga is popular on GEnie is evidenced by several special "front end" programs you can download there, with more in the works. These programs provide animation and sound effects for some of GEnie's most popular games: *Air Warrior*, *OrbWars*, *RSCARDS*, and soon, *Galaxy I*. Guaranteed to increase your enjoyment exponentially, with the exception of *Air Warrior*'s, these front end programs are conveniently optional.

Kesmai's *Air Warrior* (which you wouldn't want in text anyway) is a graphics-based WWII dogfight simulation. Fire up your pick of vintage fighter plane and (after using the offline practice mode) soar into the skies toward enemy territory. But watch it, Ace: While you're busy shooting droids, that Messerschmidt peeking over the mountains on your screen could be there to HELP you out, or TAKE you out.

OrbWars by Simutronics is a complex, fast-paced game of magic between wyzards. The object is to touch spheres on your screen, while opposing teams cast spells at monsters and even each other in mazes during stimulating 30-minute contests.

Although you can play *RSCARDS* by Factory Programming with any terminal program, its special front end software animates the parlor games BlackJack, Backgammon, Checkers and Poker. Among others, *RSCARDS* front ends are available for both Amiga and Commodore-128.

Scheduled for fall release is GEnie front end software for *Galaxy I* by Mark Jacobs - who, not coincidentally, uses an Amiga. Playing solo or in alliance with others, *Galaxy I*'s premise is to rule space using fleets of ships and such high-tech wonders as land-recyclers, solar satellites and atmosphere processors. (Jacob's tongue-in-cheek motto: "If a planet doesn't suit you, force it!")

Amiga Extras

Although you load them after you sign on, front end programs are used in addition to - or in "front" of - the communications software you connect to GEnie with. And while they work with most everything, SimuTerm (in the *OrbWars* library) is a general purpose Amiga telecommunications program which optionally automates *OrbWars* and *RSCARDS* software. *SimuTerm* is one of the best-kept secrets in Amiga circles. Besides limited scripting, ZModem protocol and being optimized for GEnie, *SimuTerm* has one of the most powerful chat windows I've ever had the pleasure of typing into.

There's a neat little front end program in the works on the Amiga RoundTable, too. Called *Mercury*, it's a

tiny utility by Jamie Mueller that operates in a window, and automates accessing Bulletin Board messages throughout GEnie. *Mercury* goes in and grabs messages from the RoundTables you tell it to. After you've read them and written your replies offline when the rates are lowest, you send it back to automatically upload your responses to the appropriate GEnie RoundTables. That makes Mercury an unmanned probe; hence the name.

Text-based Excitement

While back at the game ranch, if you think text-based (ASCII) types are necessarily dull because they lack flashy graphics, it's a sure bet you've never played *Stellar Emperor, Stellar Warrior* or *GemStone III*. Only regular communications software is required here.

One of the oldest and most successful multiplayer games in existence, *Stellar Emperor* by Kesmai is a complex war game set in the distant future. During intensive four-week hyperspace campaigns, you manage economic, military and political resources on a planetary scale, attempting to outmaneuver the competition) for the Emperor's throne. Less complex but no less thrilling, Kesmai's *Stellar Warrior* concentrates on the combat aspects of extra-territorial superiority.

Gemstone III is the most socially-oriented game on GEnie. My favorite game (online or off), it's a fantasy role-playing adventure based on I.C.E.'s *Shadow World* module. You design and play a fighter, bard, cleric, healer, mage, sorcerer or thief in an extensive land made hostile by monsters like orcs, gnomes, mummies, trolls and even giant spiders, battling them single-handedly or in groups in order to gain power. Developed by Simutronics, *Gemstone III*, like its forerunner *Gemstone II*, was developed on the Amiga. And like many complex ongoing games, it can quickly become an addiction.

GEnie offers quickie text-based multiplayer games, too, like those from Kangaroo Koncepts (Reversi, Gomoku and Chess) along with games in CB-Chat and *Imagine*Nation* - which, in itself, is an enhanced CB-like cityscape that's almost a multiplayer game. With names similar to copyrighted entertainment, these include *Brainstorm, PassTense, Scramble, SpeedWord, Trivia* and *WordFoundry*. They even have periodic treasure hunts. One advantage to CB games is that you can enjoy unlimited after-hours access there for a flat $100 a month.

Competitive Companionship

If that isn't enough, GEnie is a great resource for commercial games, too. The Bulletin Boards on Scorpia's Games and the computer RoundTables contain thousands of user- and developer-written opinions and playing tips for retail games, and the TSR

RSCards features online competition with four popular games.

(of *DrangonLance* fame) RoundTable has info on new products and excerpts from their magazine. Although most aren't multiplayer, don't forget about the public domain and shareware games available for downloading from computer-specific RoundTables.

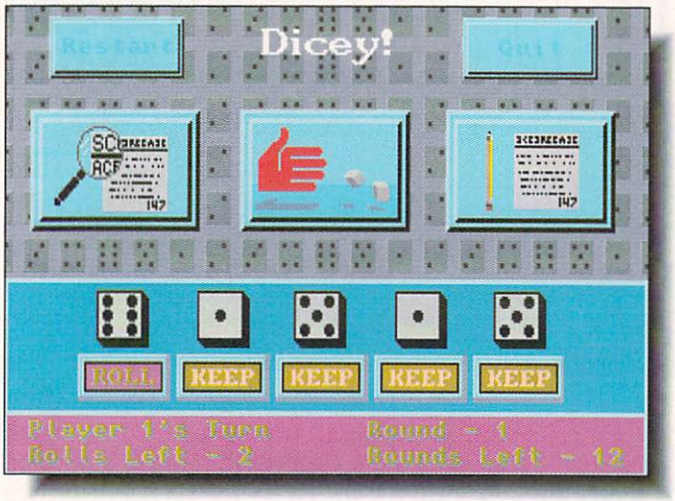
One of the best things about gaming on a network is that you rarely have to wait around for someone to play with. Requirements for this competitive companionship include a computer with communications software, phone line and modem. You'll also need to have something like a hundred uncommitted bucks a month. While there's an additional $2/hour charge for calling from the boonies, provided you live near a major metropolitan area, connecting to GEnie costs a very competitive $6/hour for 1200 Baud access) on evenings, weekends and holidays.

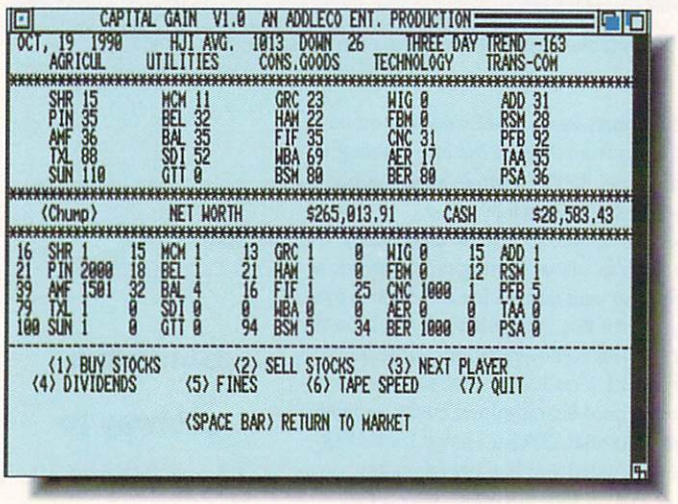
To get your local access number or more information, call GEnie by voice at the number below. The usual $29.95 membership fee will be bypassed if you join in the following manner: Set your software to local echo and dial 1-800-638-8369 with your modem. Enter HHH at CONNECTion; wait for the U#= prompt and enter: "XTX99642,AMIGA" without the quotes. And should you wish to reach me on GEnie, leave electronic mail to P.HERRINGTON. INFO's editors can be reached by writing INFO.MAG.

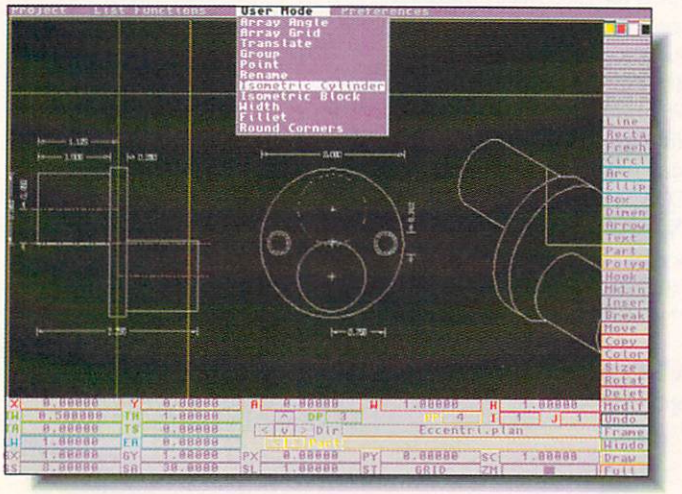
GEnie is a gateway to interactive gaming in real-time with real live people.

General Electric Information Services
401 N. Washington Street
Rockville, MD 20850
800/638-9636

Public Domain







The programs discussed here are all available from free sources such as local BBS services and user group public domain software libraries. However, our columnists acquired them through one of three commercial sources: the online communications services American People/Link and GEnie or commercial public domain software collections (see listings). For further information, contact these sources directly.

GEnie

GEnie is General Electric's commercial online information service. GEnie's *Starship Amiga* software library has about 8000 files available for downloading. (For information on signing up for GEnie, call 800-638-9636.)

DICEY!.LZH [7832]

This Amiga-tized shareware ($10) version of *Yahtzee* by Bill Mullen and Mike Monastero features very nicely done graphics, but somewhat less than ideal gameplay. Everything from the audio mouseclicks to the spots on the dice appear to load from the drive each and every time they are needed. And in the middle of my third replay *Dicey!* (left) finally ran itself out of memory on my 512K machine and died. A good-looking game, and I hope the authors take the time to work out the bugs and shortcomings for a future release.

CAPGAINS.ARC [7878]

The most fun program I downloaded from GEnie this month was a plain ol' text 'n keyboard stock market game by Jerry Addleston and P. K. Wheeler called *Capital Gains* (left). I found myself playing it for hours in spite of its lack of mouse support and the slowish 'tickertape' display. In this game you make (or lose!) your money via dividends as well as by "playing the market." For one or two players, with game save and Top Ten score options.

PLANS.ZOO [7727]

Plans v1.0 (left) by Gary Hale is a very nicely done 2D Computer Aided Design program for the Amiga. It is shareware ($50 personal use, $150 commercial use). It uses a hi-res interlace screen, and will load and run in 512K; more memory is definitely recommended. The user interface is nicely laid out and the documentation file is adequate, with more information available for registered users. *Plan* reads and stores data files in several popular formats, and has several printer/plotter options. There are a multitude of editing and drawing functions, features, and preference settings. *Plan* is fully Intuition-ized with a number of keyboard command shortcuts. I'm not a CAD expert, but this one looks pretty good.

LOTTOWORKS13.LZH [7855]

Lotto Works (right) by Robert Schader is a shareware ($5-15) programmable lottery number generator with analysis and trends graphing features which can be set up for virtually any state lottery

that involves picking and matching up to ten numbers from one to 99. The random number generator allows you to set the means and standard deviation for the random picks, or you can pick and enter your own combinations. *Lotto Works* then creates an ASCII analysis file, graphs, and histograms which compare your numbers to trends in the actual winning combinations. *[Of course, we must point out that there is absolutely no way such a program can increase your chances of winning a lottery. -Ed.]*

LHARC110.ZOO [7838]

Lharc V1.10 (right) by Paolo Zibetti is available in both archived and executable (*LHARC_V1.10* [7871]) formats. This freely distributable CLI-based utility very similar to ARC in its commands structure, but features an advanced compression algorithm developed by Haruyasy Hoshizaki. *Lharc* claims "100%" compatibility with the MS/DOS version 1.13 of *Lharc* with three minor stipulations related to some shortcomings of MS/DOS. I had no problems using this program.

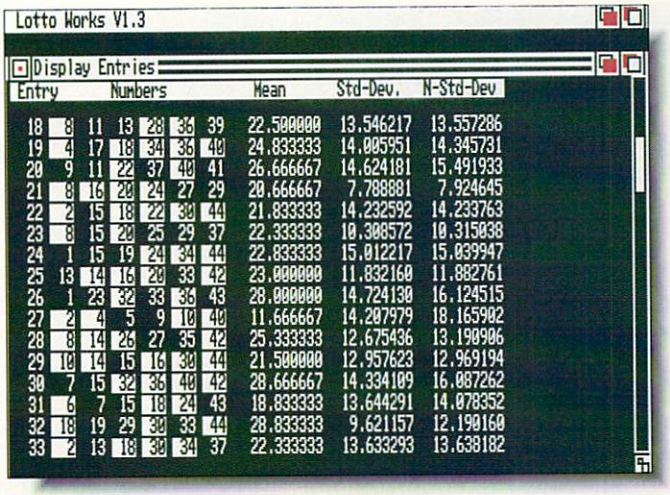
VSTANK07.LZH [7928]

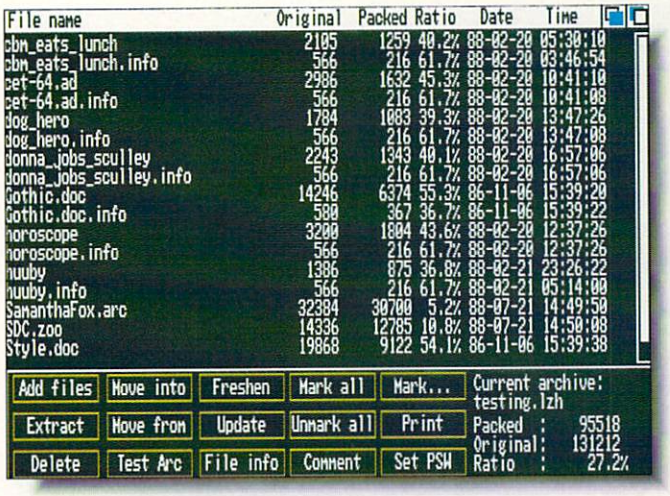
VSTank brought back memories of my favorite Fairchild cartridge video game, which is good and bad. The mouse-only control is about as hard to get used to as those three way joysticks for one thing. But once you 'get it' this game can be engrossing. The independently moving turrets are the nifty touch; you can shoot and move in different directions. The sound and the (one only) maze playfield are okay (low-res screen) and though the enemy tanks don't seem particularly smart, it was tantalizingly difficult to score more than 10 kills. There's no doc/instruction file, and the lack of any kind of replay/exit requester is inexcusable.

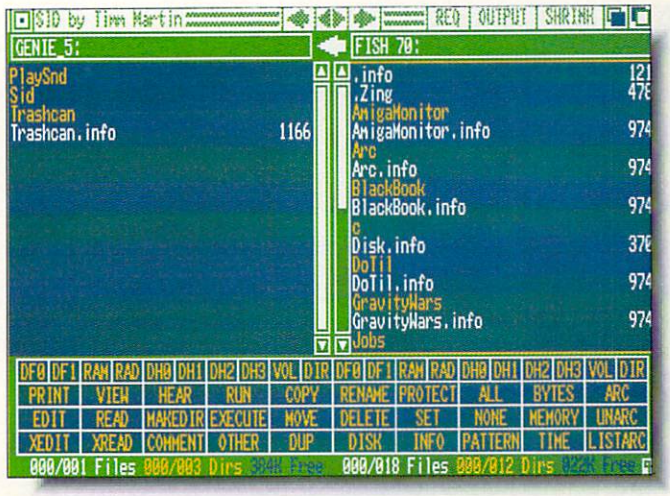
SID106.LZH [7629]

And of course, how can I end without mentioning yet another Amiga directory utility (or YAADU in Unix-ese). *SID* (right) by Timm Martin is touted to be as the one "with all the bells and whistles" and I may think of one that's been left out any minute now, but don't hold your breath. Besides all the usual support for DOS commands, archive (all except .zip, this version - you can breathe now) and display (graphics, text, and sound) utilities *SID* has a some interesting little touches, like screen resizing that ranges from a mere drag bar in 'sleep' mode to room for over 100 filenames per window (on a 1024 pixel high display using *VScreen*). Or the 21 different keyboard editing commands supported by *SID*'s string gadgets. Or *SID*'s user-definable .config file wherein you can modify everything from the custom screen colors to the numerous default directories and path strings. *SID* is shareware ($25) and registration gets you the most recent manual, several *SID*-related and other PD programs and utilities (an interactive *SID.config* editor is planned) and BBS privileges (to download the most recent versions). Or upgrades can be had for $4 each or 'free' with a blank disk and SASM (self-addressed stamped mailer).

- Don Romero







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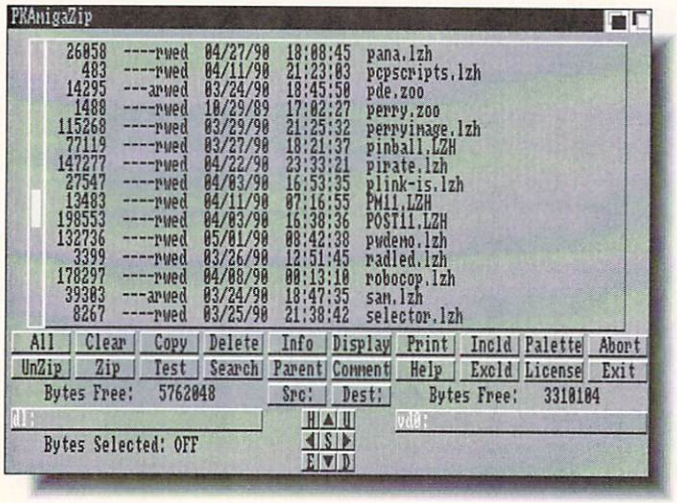
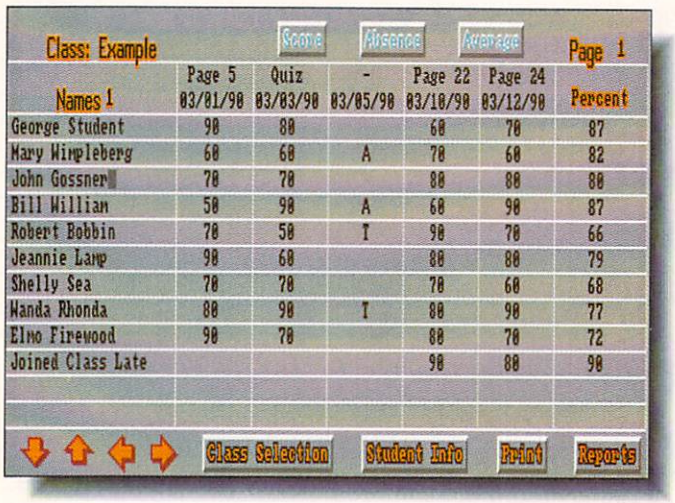
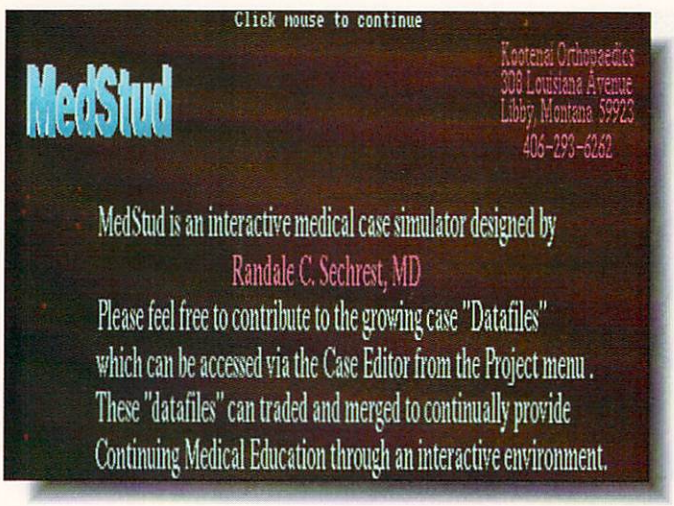






AMERICAN PEOPLE/LINK

We've opened a second Amiga support club on People/Link called Amiga Zone PRO! We've moved all of the Amiga Zone's programming and language sections into the new AZPRO club, and created new sections for Multimedia/Hypermedia, CAD and plotting, Scientific and Medical applications, and Hardware. Each file's number is tagged with either "AZ" or "AZPRO" to indicate which section it can be found in. (For information on signing up for People/Link, call 312-648-0660.)

PKAZIP101.LZH [21,353/AZ]

PKAZip 1.01 (left) is the PKWare ZIP tool for the Amiga. Renowned in the MS/DOS world for their archiving and compression tools, this is PKWare's first venture into Amiga software. *PKAZip* provides the Amiga user with a fully-Intuitionized tool written specifically for the Amiga while retaining compatibility with PKWare's *PKZIP* and *PKUNZIP* MS/DOS tools. Unfortunately, there's no CLI-command version of *PKAZip* - it only operates from within its graphical interface. This makes it impossible to pass parameters to *PKAZip* from other programs. *PKAZip* offers excellent file compression, (about on-par with *LHARC*), and other goodies. It has not found wide acceptance due to the lack of a CLI command version, although that may be coming soon.

GRADEBOOK1.2.LZH [23,006/AZ]

Gradebook 1.2 (left) is a complete grade and absence/tardy management system for school teachers. Highly flexible, you may add/drop students at any time, enter tests out of sequence, and enter absences for a test grade (when a student missed a test) and later add the score. *Gradebook* comes with several reports that summarize student scores, absences, and tardies, as well as individual test results. For speed and ease of use, most operations are accomplished with the mouse and buttons on the screen. *Gradebook 1.2* is found in the Amiga Zone's new Education section.

MEDSTUD1.LZH [1,795/AZPRO]

Here's a "Case Simulator" for medical education that also has a case editor to allow the development of a library of case scenarios for interactive drill on medical diagnosis and management. Two cases for demo purposes are included. *MedStud* (left) is not a game but an interesting and useful tool for the medical professional.

LANDER3DX.LZH [21,587/AZ]

Got X-Specs glasses? Get this file! *Lander3DX* (top right) is a spectacular full-screen lunar lander game for X-Specs. Navigate across, and in and out of a three dimensional fractal lunar scene, then try to land. Watch your fuel and altitude, and pick a safe slope to set down on. Digitized sound adds to the realism. This is version 2, which allows either keyboard or joystick control of the lander. Challenging fun and a real Amiga "show-off" program. X-Specs 3D glasses required.

DISKSPEED31.ZOO [1,861/AZPRO]

Yes, this is yet another disk speed testing program, but with a few differences. It was designed to give the most accurate results of the true disk performance in the system. Besides reading and writing files of varying sizes to test raw speed, *DiskSpeed 3.1* (right) can also induce CPU and DMA contention (singly, or both at once) to simulate the real-world that hard drives live in. As you perform each test, *DiskSpeed* appends the test results to a log file. The user-interface is great. Most Amiga magazines use *DiskSpeed* for their hard drive testing and reviews.

LHUNARC96.LZH [22,792/AZ]

Lhunarc is a lightning fast file extractor for LHARC archives (files with an extension of .LZH). It is compatible with MS/DOS version 1.13c, and is two and a half times as fast as Amiga *Lharc 1.1*. *Lhunarc* features some incredibly optimized assembly language, enabling it to burn through any .LZH archive at high speed. This sucker really cooks! *Lhunarc* is to .LZH files what *PKAX* was to .ARC files.

CB.LZH [22,826/AZ]

Have you ever wanted a scroll gadget on your CLI window? *Console Buffer* (CB) is for CLI users who would like to have a history and/or hardcopy (either file or device) of their console input and output. It works with both CLI and shell windows. Console I/O is saved in a buffer, the size of which is set by the user. When the program is started a proportional gadget is attached to the console window that can be used to scroll through the console I/O just as you would use a wordprocessor vertical scroll gadget!

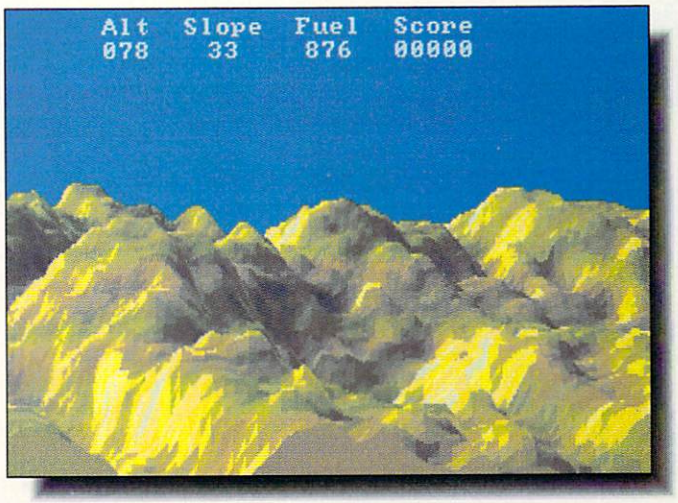
FIXDISK.ZOO [17,403/AZ]

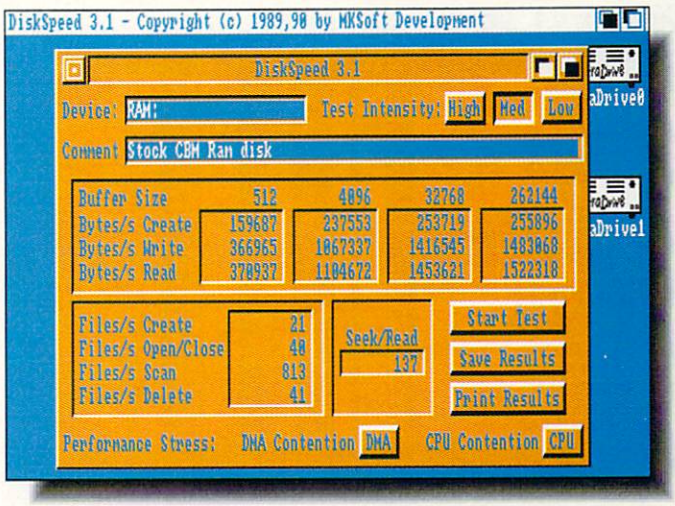
FixDisk (right) is a program to recover as much as possible from a defective disk. It's what Commodore's *DiskDoctor* should have been. *FixDisk* has some features *DiskDoctor* and *DiskSalv* lack: it can recover damaged (unreadable) tracks, it has functions to check file integrity, to check the directory structure and functions to undelete, copy or show even defective files, fix corrupted directory pointers, etc. Everything can be selected with an Intuition interface, so you can determine what action should take place.

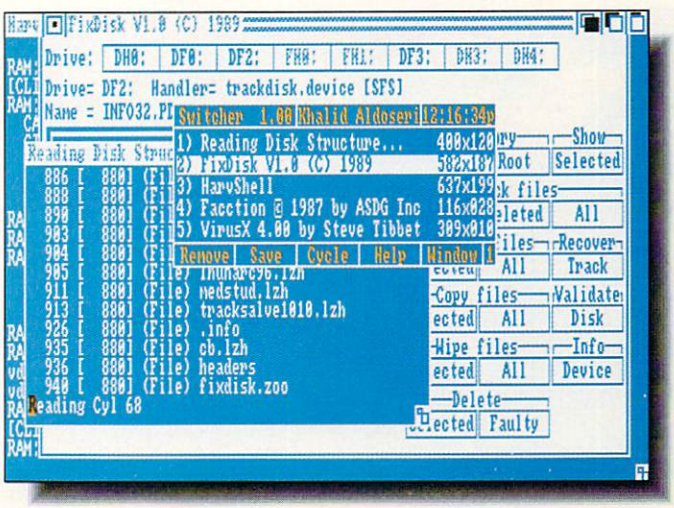
SWITCHER.LZH [21,137/AZ]

Switcher (right) provides you with a list of current screens or windows and allows you to select which one to switch to. *Switcher*'s config file can also hold the names of 40 of your favorite Amiga programs, which you can then launch with a mouseclick from a pop-up window. For example, you could pop up *Switcher* and run *DiskMaster* from *Deluxe Paint*'s screen. A tiny and incredibly useful little program.

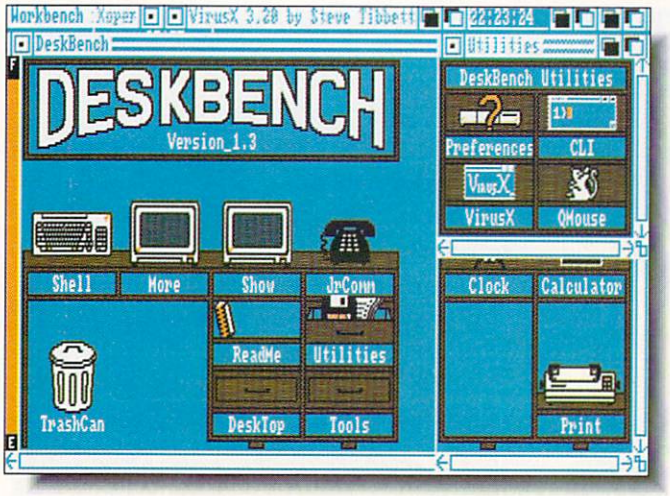
- Harv Laser (CBM*HARV)

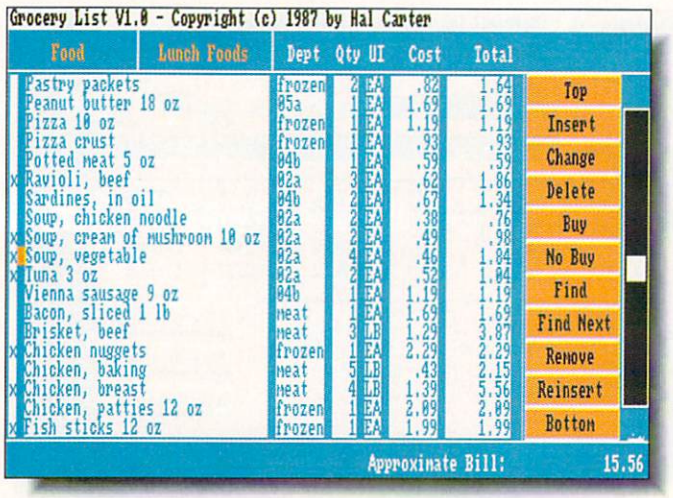


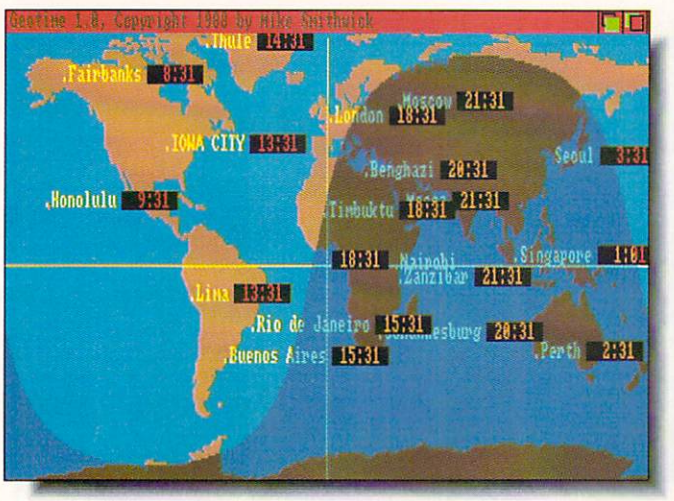




Public Domain







DISK COLLECTIONS

PREMIER SOFTWARE

It seems so simple - why not publish PD and shareware in volumes of related programs? While some Amiga PD disks contain a chaotic mix of utilities, applications, graphics and miscellaneous stuff, Premier Software has seen the wisdom of classification, and offers a line of (currently) 87 disks arranged in logical categories, some in sets of three or four. These disks are well produced, with high-quality 8 color labels worthy of commercial releases. Many of your old (and soon-to-be) favorites are to be found, but now they've been brought together in a way that makes them more usable. In a daring move that will probably destroy his home life, Premier's Roy Tretheway encourages users to call him after 6:00 PM California time for assistance. Considering what these disks cost, it's remarkable support. I only hope he can still get a little sleep!

HARV LASER'S TOP 20

Among the most impressive of Premier's disks are *Harv Laser's Top 20* public domain picks, as enumerated (dare I say it) in *Amiga World*. You will want all of these, because their popularity is well deserved. It's true you could download all these programs, but buying the set of four disks will save you much time and money. Like all the Premier programs, they are unarced for you and ready to run. Some need to be copied to the proper directory, or added to your startup-sequence, but it's painless. Many CLI-only programs have been iconized for you, and the docs are automatically sent to the screen via *More* when you click on the appropriate icon.

DESKBENCH [W1]

Exclusive to Premier is the *DeskBench* (left) series: three disks, including a bootable 1.3 Workbench, using a clever metaphor. Drawers reside in a desk which you can design and modify with the help of numerous drawer and bookshelf icons available on the other two disks. It's the work of Roy's partner, George Christensen, who is also responsible for the nice icons on the other disks, and their general organization. While *Deskbench* resembles the standard Workbench, the implementation is more elegant. Included on *Deskbench* are a number of utilities, including the picture viewer *Show*, the excellent communications program *JR-Comm*, the *QMouse* mouse accelerator, and *VirusX 4.0*.

DESK TOOLS [T5]

Desk Tools includes a popup calendar, two calculators, and two address/phone books. I've found the display programs of this type more trouble than a regular phone book, but the print facility of *AddressBook* is useful. *Grocery List* (left) is similar to other shopping list programs, but has the added feature of cost tracking. You customize the list to your needs, including the prices of items. *GeoTime* (left) displays a world map with the current Universal

time for different cities. You can add locations by including place name, latitude, longitude, and a correction factor for Universal time, to the data file. This is easier than it sounds, and allows the display of exotic places like your home town. The animated screen shows night in real time as it moves across the world.

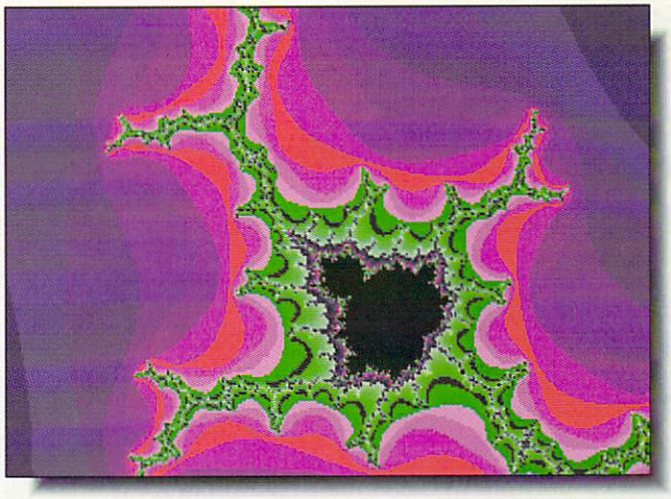
DUNGEON MASTER HELP [G2]

This disk provides maps of another kind. If you're addicted to *Dungeon Master*, you'll want this. Clear maps, charts of spells (right), and (if you need it) a complete walk-through are available at the click of your mouse. Premier plans more help disks for other games.

Symbols	Casters	Effects
	Priest	Poison cloud
	Priest	See through walls
	Wizard	Invisibility
	Wizard	Lightning
	Priest	Monster confusion
	Wizard	Light
	Priest	Dextreity potion
	Wizard	Torch
	Wizard	Fireball
	Priest	Strenght potion
	Priest	Fire shield

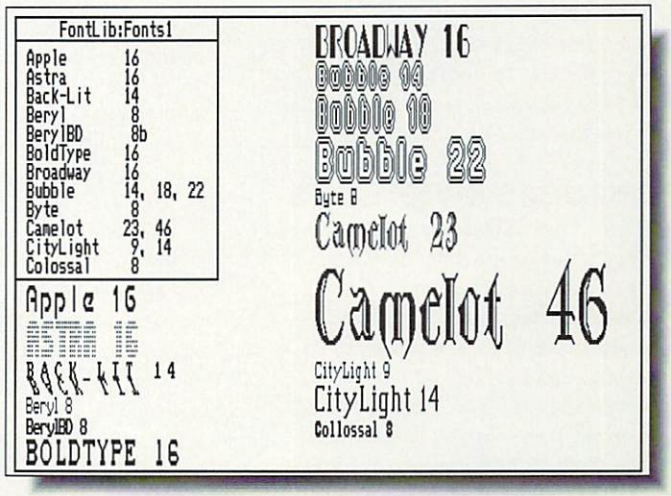
MANDELBROT [16]

Mandelbrot contains one of the older Mandelbrot generating programs. Like most (except *MandelVroom*, available on disk 23), it takes a while to generate an image, but is capable of stunning output (right). There's an option to produce smaller size displays as tests, which can be seen in under a minute. Then you can generate a full-size display when you are happy with the picture. Presets are provided for instant gratification, and you can modify them to see what happens. These images can be enhanced with programs like *Deluxe Paint*. Since I grew up in the 60's, I'm a sucker for anything resembling a light show. Add color cycling to your fractal, and you can almost hear Jimi Hendrix...



FONTLIB [12]

Fontlib is, surprise, a collection of fonts (right). Sure, we all suffer font-envy when we see what's available for other machines. I've yet to see many for the Amiga that I really like, but some of these are unusual, and the price is right. Some useful utilities, including *ShowFont* and *BlitzFonts* are here too. *ShowFont* lets you view a font with the least possible fuss. *Blitzfonts* is a text speedup utility similar to *FastFonts*, which is included with Workbench 1.3.



CATALOG DISK

The biggest bargain here is the Premier catalog on disk. The library and its programs are described briefly, but with enough detail to help you decide what you want. The company plans many more disks, and if prepared with the care evident in these, they'll be excellent. From labels to support, Premier is a class operation.

HOW TO ORDER:

Premier Software, PO Box 3782, Redwood City, CA 94064, 415-593-1207 (after 6 PM for a human, earlier for a machine.) Prices: Catalog disk, $3.00 including shipping and handling. Program disks, 1-4: $6.00 + .75 s&h each 5 or more: $5.00 + .75 s&h each. Laser's Top Twenty set (4), $20.00, Deskbench set (3), $15.00, plus s&h. Animation and other disk sets available at package prices.

- Jeff Lowenthal

Reader Mail

...Continued from page 10

TEARING UP THE INDUSTRY

I 'm glad to hear that *.info* is back in action and tearing up the microcomputer industry as usual. Please don't sacrifice any of your humor or quality. In this day of cheap Nintendo mags and dull computer journals, it's nice to see a magazine that's written by hard-core computer freaks, even if you are based in a state as lame as Iowa. *.info* is really, uh...GREAT!!!

- Derek Godat, Terre Haute, IN

"Lame as Iowa?!?" That's a pretty cheeky statement from someone who lives in that jewel of the Midwest, Indiana. Let's make a simple comparison here. 'Is this heaven? Almost. It's Iowa,' or 'Indiana, home of Dan Quayle.' Pretty much says it all, doesn't it? But thanks anyway for this issue's obligatory .info *is uh, great letter, dude!* **- Mark & Benn**

THE BEST OF BOTH WORLDS

I want to buy a computer for games. Some games are not written for the Amiga but are available for the IBM. I had the idea that an Amiga with a Bridgeboard might be the best of both worlds. Could I play games for the IBM on an Amiga with a Bridgeboard?

- William D. Wagner, APO, NY

You could, but why would anyone in their right mind want to play an MS/DOS game if they didn't have to, especially with the best computer ever built for game playing right there? Aack! **- Mark & Benn**

STAND UP AND BE COUNTED

I t's about time that Amiga users have the same benefits provided to MS/DOS and Mac users, specifically, the on-line service Prodigy. I'm sure there are thousands of Amiga users who would like the option of using Prodigy. I urge you all to call 1-800-776-3449, or write to Prodigy at 2465 Black Rock Turnpike, Fairfield, CT 06430-9821, and let them know you want Prodigy for the Amiga. Even if you might not use the service, you should voice your opinion. The only way the Amiga will become accepted is if users let manufacturers and developers know we want their products. It will only take a minute of your time and cost you nothing, but the whole Amiga community will gain by your action.

- Lewis Kemper, Alameda, CA

So true, so very true. Amiga users need to stand up, be counted, and vote with their bucks. Buy magazines and let advertisers know where you saw their ad. Support developers who offer quality products by buying them, not pirating. Buy magazines! Encourage companies to release versions of software for the Amiga and to offer services that are available for other systems. Buy magazines! A million and a half vocal potential customers are not likely to be ignored. **- Mark & Benn**

.info Update

MOVES

•**King Publishing** has relocated at 1200 Treadwell, Suite 226, Austin, TX 78704. The new phone number is 512-448-2414.

•**Interplay** (of *Battle Chess* fame) is moving to 3710 S. Susan, Suite 100, Santa Ana, CA 92704. Voice phone remains 714-545-9001 and the new fax number is 714-549-5075.

OOPS

•The phone number for the **Zuma Group** was somehow zeroed out in the review of *TV*TEXT Professional* in issue 31. The number is 602-246-4238.

CHANGES & VERSIONS

•There's lots of update information from **Dr. T's** this month. First, they have picked up and are now marketing **Intelligent Music**'s *M* and Laurie Spiegel's *Music Mouse* (one of our favorites around here). Dr. T's own *KCS* and *Level II v3.0* have been upgraded.

•**Diemer Development** has upgraded their *C-Zar* editor/librarian for Casio keyboards to version 2.4. They have also lowered the price (can you believe it!) to $99. Registered owners can get the new version by sending in their original disk and $10.

•Brett Casebolt of **Natural Graphics** has upgraded one of our favorites, *Scene Generator* to version 2.10. It now has an extra high detail mode that produces fractal landscapes of photographic realism. Cost is $49. PO Box 1963, Rocklin, CA 95677. 916-624-1436.

•**Inovatronics** has updated their *C.A.P.E.* assembler to version 2.5. Three new modules have been added: *HLink* linker, *PMD* (which stands for what has to be one of best names ever - "Program Module Dismemberer") disassembler, and *HProf*, which will spot relatively inefficient sections of code. 8499 Greenville Ave., Suite 209B, Dallas, TX 75231. 214-340-4991.

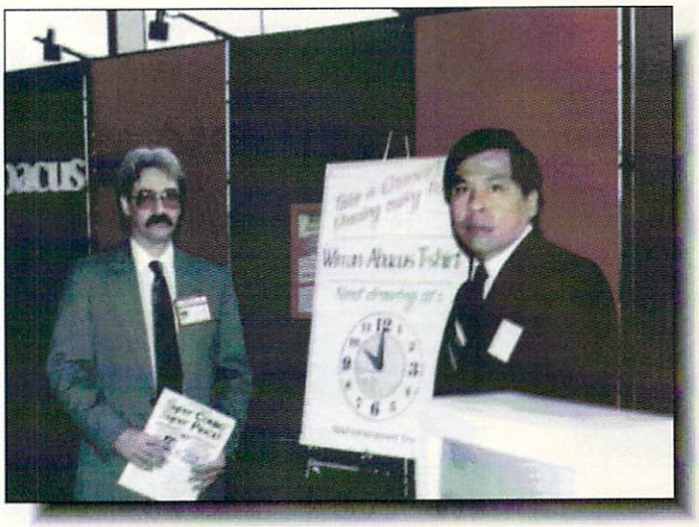
•**Emerald Intelligence** is shipping v. 1.1.2 of their *Magellan* expert system software as a freebie to all registered owners. 3915-A1 Research Park Dr., Ann Arbor, MI 48108. 313-663-8757.

.info STAR RATINGS

★★★★★	Incredible
★★★★✚	Excellent
★★★★	Very Good
★★★✚	Above Average
★★★	Average
★★✚	Below Average
★★	Awful
★	Absolute Drek

WORLD OF AMIGA PIER 92, NEW YORK CITY

by Morton A. Kevelson, P.E.



Jim Oldfield and Rob Lun of Abacus Software.

The World of Amiga show was produced and managed by the Toronto based Hunter Group, the same outfit that has been producing the World of Commodore shows since 1983. This was the first "World of" show that was totally dedicated to the Amiga computer. It was not without some misgivings that I planned to attend this World of Amiga in New York City. The two day show's weekend schedule did not include Sunday, which is peculiar for a New York City event. The show itself was also located at Pier 92 on New York City's west side waterfront. This placed it just a couple of blocks North of the USS Intrepid, the World War II aircraft carrier which has been converted into a floating sea, air, and space museum. It was also in a location which, as a native New Yorker, I knew could pose some problems with public transportation.

In the end, I was pleasantly surprised on both counts. The transportation problems I had anticipated failed to materialize and the show itself was well attended by both exhibitors and consumers. In fact I overheard several exhibitors express some concern about not having brought sufficient stock to last the two days, and this was still early Friday afternoon.

The number of notable new products which made their debut at this World of Amiga, was out of proportion with the size of the show. With only 55 exhibitors, the show was one the smallest that I have attended. This was counterbalanced by the fact that most of the exhibitors were independent developers as opposed to retailers or distributors. As such, there were new products announced in all the three basic categories of hardware, productivity software, and games.

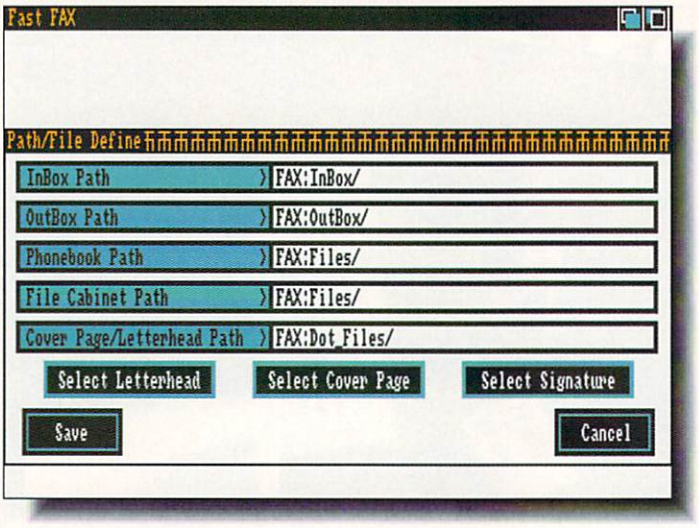
HARDWARE

Two major exhibits immediately caught my eye as I passed through the show's doors. First there was the massive Commodore booth, which included several Amiga 3000s; and then there was the large NewTek exhibit, showing off the Video Toaster. For many show-goers, either of these exhibits was worth the price of admission.

In addition to the live demonstration of the Toaster, NewTek was also showing its promotional videotape starring magicians Penn and Teller. In their own unique fashion, these well-known personalities pointed out how the $1595 Video Toaster provides $60,000 worth of professional video equipment, thereby immediately earning $58,405 for the clever purchaser. Penn and Teller concluded their show by presenting their version of a totally tasteless rock video which was made possible by the Video Toaster.

What may yet turn out to be the hottest new product for the Amiga 500 to be announced at the show was the **Power PC Board** at the *Pulsar* booth at the back of the hall. Pulsar is a brand new Amiga distributor being run by Eric Miller, otherwise known as Dr. Ox Hide. (Oops, sorry! That's "Oxide." The former is a bovine containment system, while the latter is a magnetic media digital storage surface coating.) Many of you may recognize Dr. Oxide as the proprietor of Comp-U-Save, a regular exhibitor at Commodore shows. In any event, the *Power PC Board* is an 8 Mhz NEC V30-based PC clone which fits into the Amiga 500's internal RAM expansion slot! For $550, the *Power PC Board* provides an XT Turbo clone with Hercules/CGA and Monochrome graphics, and 704 kilobytes of RAM; it also includes 64 kilobytes of EMS, a Phoenix BIOS, and a clock/calendar. The system software consists of MS/DOS 4.01, MS/DOS Shell, GW Basic, and spreadsheet, database, and wordprocessing software. The hardware supports the Amiga 500's serial port, parallel port, and mouse port. Mass storage is on the Amiga's own internal and external 3.5 inch disk drives, and the system also supports the A1020 external 5.25 inch drive. On the Amiga side you get an additional 512 kilobytes of system RAM and a 512 kilobyte RAM disk. You also get the *CrossDos* software, which provides AmigaDOS with direct access to MS/DOS formatted floppy disks.

Pulsar was also showing a handheld color scanner ($795) which offered 90 dots per inch (dpi) resolution and 4096 colors with a



MichTron's FastFax

64 mm scanning width. The length of the scan is limited by available memory, but the software can paste together multiple strips from successive scans. Pulsar was also showing a handheld black and white scanner ($479) with 200/300/400 dpi resolution and 16 gray scale capability. This scanner is also the first one I've seen that comes with OCR (optical character recognition) software.

Pulsar also announced that they have acquired the distribution rights for the **Nordic Power First Amiga Action Cartridge**. This cartridge, when plugged into the Amiga 500/1000 expansion port, takes control of the computer, allowing you to dump the current memory configuration to disk, scan memory for images and sampled sounds, and examine and modify memory via its built-in machine language monitor.

Getting back to hand scanners, *Migraph* was showing working samples of their **Hand Scanner** and **Touch-Up** system which offers a four inch wide scan at 100/200/300/400 dpi, three dithering patterns, and a line art scan with adjustable contrast. The *Touch-Up* software is actually a full featured paint package with file conversion capabilities. It is able to import and export IFF, IMG, PCX, TIF, GIF and *MacPaint* image files. Image size is limited only by the available memory. Migraph was demonstrating the system with version 0.91 of the software, but the package is expected to ship with version 1.0 of the software before you read this. The user interface will be very similar to the corresponding versions of the system which are currently available for MS/DOS and Macintosh computers.

With yet another scanning related application, *MichTron* was showing a prototype of their $699.95 **Fast FAX** facsimile sending and receiving system for the Amiga. *Fast FAX* is a hardware and software package which provides the Amiga with all the attributes of a Group III FAX machine. The hardware is based on its own 68000 microprocessor running at 8 Mhz, with 32 kilobytes of RAM and 64 kilobytes of ROM. Michtron was also showing their new **Master Sound** sound sampler hardware and software package.

Although they were listed in the show guide, the Brooklyn-based *Beta Unlimited* was not able to make it to the show. However I did receive a press release just before the show describing their **AudioLink** system, a 16-bit linear stereo audio processor with 16 voices, variable sound sampling rate up to 50,000 samples per second (100,000 samples per second for 2x oversampling in mono), and an onboard MIDI port. This compact-disk quality system, which will available for all Amiga models, will come with complete sound editing software. It is designed to provide high quality sound samples for use with MIDI instruments. Beta Unlimited expects to have working prototypes available at AmiEXPO in Chicago.

Digital Creations was also present at the World of Amiga, although they were not listed in the show guide. They were showing prototypes of their **DCTV** (Digital Composite Television) system which is able to do a slow scan digitization of a composite video signal in full color in about 10 seconds. *DCTV* also allows the Amiga to display 24-bit color images, and it comes with image processing software for digitizing images and converting IFF images for display. *DCTV* plugs into both of the Amiga's video and parallel ports. It is expected to sell for less than $500.

PRODUCTIVITY SOFTWARE

The first big software event at this World of Amiga was the debut of *Gold Disk*'s **Showmaker** ($395), a multimedia editing package that lets you combine Amiga graphics, animations, and sound with external video, genlocked video, and MIDI music for output to videotape or for realtime playback on the Amiga. The software has a very easy-to-use graphic interface, and it works with both consumer and professional grade audio and video equipment. Very long shows are possible since *Showmaker* can play one part of the presentation while it is busy loading the next part. Kailash Ambwani, the CEO of Gold Disk, was a featured speaker at the show, and expressed his belief that both *Showmaker* and the Amiga will be in great demand in the 90s as more companies turn to videotape advertising to get their message across.

Appearances were also made by Guy Wright, the former editor of *Amiga World* and the author of *The Amiga Desktop Video Guide* (Abacus Software) and by Lloyd Mahaffey, vice president of marketing for Commodore USA. Mr. Mahaffey pointed out that Gold Disk's *Showmaker* and Commodore's new *AmigaVision* were complementary products.

New Horizons was selling their first copies of **ProWrite 3.0** ($175). *ProWrite 3.0* has added multiple column support, a 300,000-word-cross referenced thesaurus, macros, an ARexx port, and heavy cardboard slip case package to its already long list of features.

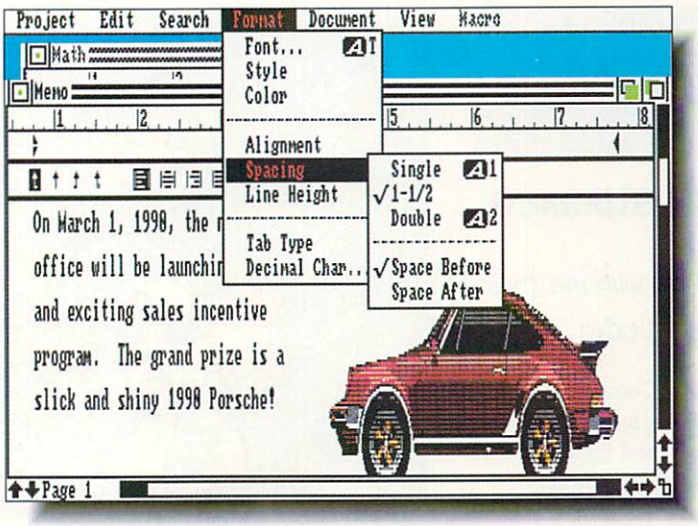
Soft-Logik made several announcements at the World of Amiga. **PageStream 2.0** will be fully integrated with Agfa Compugraphic's hinted outline fonts as well as the Adobe Type I IBM format (without hints) outline fonts. These fonts will be used for both screen display and output to dot matrix, laser, and PostScript printers. The upgrade charge will be $75 to registered owners. Soft-Logik has also licensed the Image Club Graphics' collection of PostScript fonts and clip art. These collections have been available to Macintosh users for several years. The clip art library contains over 2000 EPS (encapsulated PostScript) files, and the font collection consists of more than 600, Adobe Type I compatible licensed typefaces.

Soft-Logik also announced **Business Forms**, a collection of 40 forms and templates in categories such as accounting, invoices, office memos, and purchase orders.

The new kid on the Amiga desktop publishing block is *Saxon Industries*. They were selling version 1.0 of **Saxon Publisher** ($450 U.S.) at the New York show. *Saxon Publisher* has an impressive array of features including several unique ones such as non-rectangular text boxes and direct import and printing of 24-bit image files without the need for separate conversion utilities.

Precision Incorporated did not release any new products, but did indicate that they were actively porting **Superbase 4** to the Amiga. *Superbase 4*, which currently runs under *Microsoft Windows* on MS/DOS computers, supports local area networks based on Ethernet or ArcNet hardware. *Superbase 4* is expected to be ready this Fall and it will sell for $495. An upgrade offer will be made to registered owners of *Superbase Professional 3.x*.

For musicians, *Dr. T's Music Software* was in attendance with the official release of **Tiger Cub** for the Amiga ($99). *Tiger Cub* features 12 track sequencing, graphic "piano-roll" editing, and quick scoring with printout.



Version 3.0 of ProWrite from New Horizons.

GAMES

There was no shortage of game developers and new game releases at this World of Amiga. *Lucasfilm* chose this show to release the Amiga version of **Their Finest Hour: The Battle of Britain** (*BOB*). This game combines technical accuracy with seat-of-the-pants flying action. All of *BOB*'s aircraft are rendered with bitmapped graphics as opposed to the usual methods using polygon approximations. Extensive use is made of the Amiga's sound sample playback system.

Lucasfilm also announced the pending release of **Loom**, their first fantasy adventure game, which sports a new user interface which completely eliminates the use of text or menu commands. *Loom*'s Project Leader is Brian Moriarty, the author of several Infocom games such as *Wishbringer* and *Beyond Zork*.

Bethesda Softworks released their **Hockey League Simulator**, which lets you assemble and manage you own hockey teams. Once created, the teams can interfaced with the company's *Wayne Gretzky Hockey* game. *Hockey League Simulator* comes with the player ratings and team data for the 1987-88 National Hockey League season. Bethesda Softworks also announced the May release of **Damocles**, a three dimensional intergalactic adventure, and a deal with the Helmdale Film Corporation to produce computer game versions of **The Terminator**.

The Electronic Zoo brought out **The Legend of William Tell** ($39.95) at the show and they expect **Treasure Trap** ($39.95) to be shipping by the time you read this.

CONCLUSIONS

Overall, this was a much better show than I had anticipated, in view of the good developer turnout along with many new and interesting products. A quick glance at my calendar shows that between the World of Amigas and the AmiEXPOs, exhibitors are going to be in for a rough year. I count no less than eight shows scheduled for the U.S. and abroad through the remainder of this year. October 5-7 is expected to be particularly hectic as an AmiEXPO in Anaheim, CA, and a World of Commodore and Amiga in Rosemont, IL, are taking place at the same time.

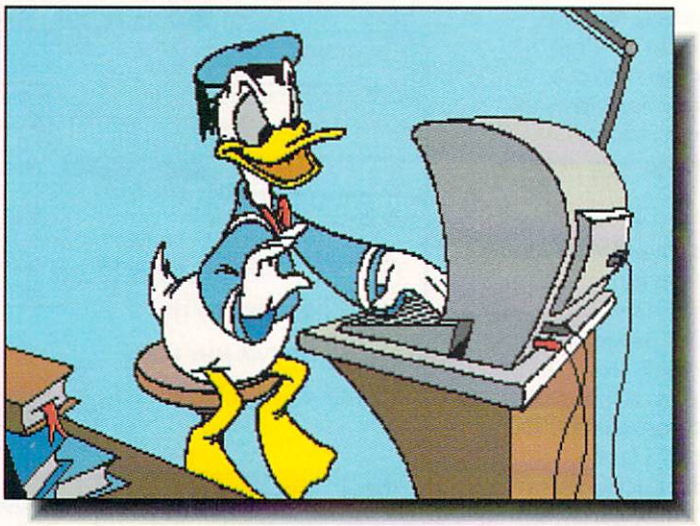
CES Chicago

CHICAGO IN SUMMER

or

I Only Came to Play with the Toys

by Tom Malcom



Donald Duck stars in this animated demo created with Disney's Animation Studio.

The Summer Consumer Electronics Show in Chicago used to be the largest trade show in the world. Given the attendance at the last two, I'm not so sure that's true any more. The aisles weren't empty, but they certainly weren't overcrowded, either. The level of excitement has plummeted, replaced by an air of getting down to business. It's too bad; I remember fondly the elaborate presentations and fabulous parties of former shows and I miss the theatrics. The game publishers were once again on the main level of McCormick Place's North Hall, occupying space at the back, behind the telephone displays and completely overwhelmed by Nintendo's gargantuan edifice. (I'm actually wondering when the name of the show will officially be changed to the Nintendo Electronics Show.)

For once, Commodore was at the center of discussion and speculation. In particular, their new **CDTV** interactive CD-ROM machine (often referred to as the "Baby"). It was being shown behind closed doors in their booth, though what the rationale for hiding it away might be, I cannot begin to fathom. Commodore did host an official roll-out party at the Wrigley Building on Saturday evening, but, very strangely, did not have a single CDTV unit at the party. [See sidebar for more details.]

I was considerably gratified that most publishers now consider the Amiga their second computer platform (after, of course, IBM), though everyone is competing heavily in the cartridge/CD-ROM market, whether it's Nintendo, NEC's new TurboGrafX, or Sega's Genesis. I heard very little talk of new C64 or Apple titles. Some companies are still supporting them, but there seems to be only a trickle of product in the pipeline, and it doesn't look like there will be much of anything after Christmas. With a few notable exceptions, like *Maxis*' new **SimEarth** (which will eventually be ported to Amiga), the Mac seems to have been abandoned as a viable game platform. The publishers are also beginning to realize that straight ports of games developed on IBM just don't make it with Amiga game players. However, I also noticed a strong trend toward development on VGA (256 colors) and heard associated complaints of having to convert down to Amiga resolution. It's obviously time for Commodore to address this issue. If only we could have the VGA on-screen color range with the Amiga's far superior animation. Sigh!

As for specific new titles, *Accolade* has picked up **Ishido** from Publishing International. It was originally to be released by Epyx, but fell into limbo when Epyx reorganized (though Epyx was actually at the show with a new Nintendo release). Ishido is a beautifully rendered boardgame with a variety of player-selectable boards and playing pieces. It also has a construction mode to design your own boards and pieces. I've been playing a beta version for months and it's one of the best boardgames ever done on a computer. Accolade is also releasing a computer edition of the long-popular **Stratego**. They also seem committed to diversifying their product line with a new series of graphic adventures. **Search for the King**, written by Steve Cartwright, features a geeky character not unlike a certain leisure suit wearer who is hunting for The King not of some mythical land, but of rock & roll. **Altered Destiny** is by noted science fiction and former Infocom (*Suspended*, *Infidel*) author Michael Berlyn. It features a main character who is sucked through his TV screen into a fantasy world.

One of the high points of the show was a reception by *Disney* at the lavish new Forum Hotel. They were launching a whole new computer software division and showing not just their expected educational games featuring Mickey, Donald, Goofy, and the gang, but also games based on Disney movies and characters, and a new Amiga-only animation package called **The Animation Studio** (formerly *Onion*). In a very calculated marketing move, IBM versions **Dick Tracy** and **Arachnophobia** will be released nearly simultaneously with the films of the same names. Amiga versions will follow later in the year. *The Animation Studio* is a $179.95 package originally con-

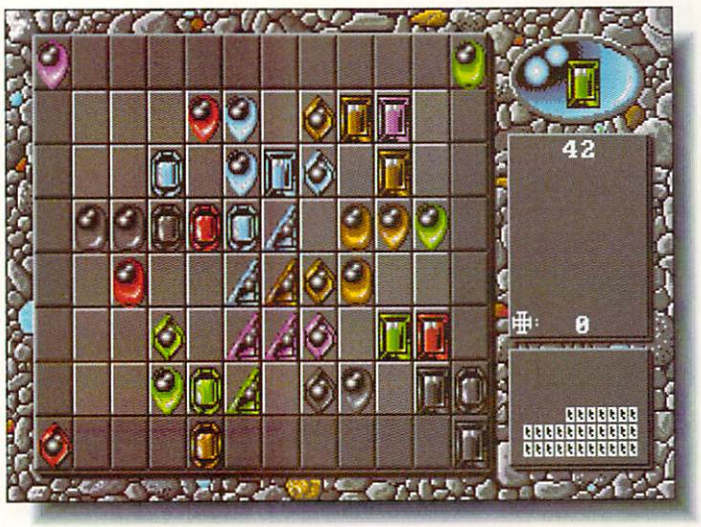
ceived by the wildly creative Reichart von Wolfsheild. It operates on the principle of onion skin paper, letting you see through to other frames of the animation. The wonder of the package is that it will let you do real Disney-style animation complete with sound and music! There are even some sample animations digitized from actual Disney drawings.

Lucasfilm hosted a party, also on Saturday night, with a pirate theme and for entertainment featured some real, live swashbucklers swordfighting over a comely wench. The reason for the Caribbean theme was the release of **The Secret of Monkey Island**, a new graphic adventure that uses the same point-and-click interface as *Indiana Jones & the Last Crusade*. They're also releasing **Secret Weapons of the Luftwaffe**, a sort of continuation of the recently shipped *Their Finest Hour: the Battle of Britain* flight combat game.

In a welcome bit of news, *Taito* is moving away from their usual blood and gore shoot-em-ups and into more parentally-acceptable entertainments. Coming this summer are **Kiwi Kraze**, **Castle Master**, **Day of the Pharaoh**, and **Operation Thunderbolt**.

The long-awaited Amiga version of *MicroProse*'s **Pirates!** is now shipping, with graphics and animation redone specifically for the Amiga. They also have a long list of other titles coming from their own shop: **Red Storm Rising**, **M1 Tank Platoon**, **F-19 Stealth Fighter**, **Universal Military Simulator II**, and **Midwinter**. Affiliated label *Mindcraft* will be releasing **The Keys to Maramon** and **The Magic Candle II** later in the year. *Paragon*, another affiliate, will be shipping **Space 1889**. No, that's not a typo; the game is based on the late 19th Century vision of space travel, a la Jules Verne and H. G. Wells. Sounds fascinating.

Electronic Arts had a large booth into which they had gathered their multitudinous affiliates. *Cinemaware* has been concentrating most of their efforts on developing CD-ROM games (and we'll certainly see some of them on Commodore's CDTV), but **Wings**, their World War I flight combat game, will be shipping in August. *California Dreams* was showing **Tunnels of Armageddon** (see the review in this issue) and announced **Street Rod**, a 50's type hotrod construction and racing game. EA's newest affiliate is the large European developer *Ocean*. Among the titles Ocean will be releasing here are **Nightbreed**, **Billy the Kid**, **The Untouchables**, **Lost Patrol**, and, most interesting, **Battle Command**, a tank game done by the same people who did *Carrier Command* a couple of years ago. *SSI* is bringing more of their AD&D series to the Amiga, including **DragonStrike**, the next in their *Dragonlance* series. French affiliate *UBISoft* will be releasing **B.A.T.**, with a science fiction scenario, and **Unreal**, a fantasy with some beautiful graphics. However, the one new title that stood out at the EA booth was **Powermonger**, the next release from British developer *Bullfrog*, the people who gave us *Populous*. *Powermonger* has the same general layout, but with more of a warlord scenario. It has many new features, like several levels of magnification and the ability to rotate the point of view. I can hardly wait to get my hands on a copy.

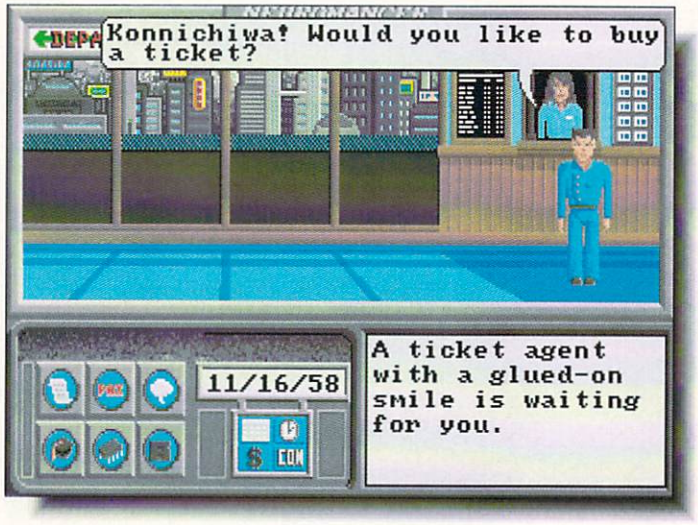


The addictive Ishido from Accolade.

Another standout game was being shown at the *Mastertronic* booth. **Wonderland** is based on Lewis Carroll's classic *Alice in Wonderland* and is being developed by *Magnetic Scrolls*, the same people who did *The Pawn* and *Guild of Thieves*. They have devised a new windowed adventuring system that, while I only saw it on IBM, will also be used for the Amiga version. The graphics are extraordinary and true to the spirit of the familiar drawings of Sir John Tenniel, the original illustrator of *Alice*. **Spot**, the boardgame based on the 7-Up character, is also a little closer to an Amiga version and its clever animations are even better than when I saw it at Winter CES in January. Mastertronic also has **Spirit of Excalibur** (just how many Arthurian legend games can the market support, anyway?) coming in the Fall.

I stopped by to see the *Software Toolworks* people, mostly curious to find out the status of Mindscape. The official word is that *Mindscape* is being dissolved; we'll still be seeing the name, but only as a software label. The titles Mindscape had in the pipeline when the company was bought out will still be released. Included in the list are **Days of Thunder**, **Myth**, **Superbike Simulator**, **Harley Davidson: The Road to Sturgis**, **Star Trek V: The Final Frontier**, and **Loopz**, which, in particular, looks like it will be very addictive. Something on the

Show Reports



The Amiga version of Neuromancer, coming soon from Interplay.

order of Lucasfilm's *Pipe Dream*, the game has you placing curved and straight sections on a grid. If you can complete an entire loop, the loop is removed. You're playing against a timer, naturally. As for Software Toolworks themselves, the most interesting thing they were showing wasn't Amiga at all, but a music-teaching system based on a Nintendo cartridge and a proprietary keyboard. Priced at about $300, it looks like a terrific way to learn music. I wish they would adapt it to the Amiga, but at present they have no plans to do so.

Konami is porting more of their very successful NES cartridge titles to the Amiga. **Blades of Steel**, **Double Dribble**, **Metal Gear**, and **Castlevania** were mentioned specifically. They're also working on the sequel to *Teenage Mutant Ninja Turtles*, to be released first on NES, naturally.

Interplay, exhibiting in the Software Publisher's Association booth, gave me the welcome news that **Neuromancer** for the Amiga is nearly to the shipping point. I can hardly wait to jack into the Matrix. *The Electronic Zoo* was also in the SPA booth, showing **Tennis Cup**, **Treasure Trap** (a puzzle-type game set in a sunken ship), and **Spherical**. In case you missed it as an import, *Spherical* is a five-star arcade puzzle game [review in INFO #29] that's one of the best ever.

Data East was showing several of their new titles at the posh Barclay Hotel. They are taking on Cinemaware's sports titles with some new additions to their own MVP sports line. **The Dream Team: 3 On 3 Challenge** features Patrick Ewing, Dominique Wilkins, and James Worthy in a half-court game. **Bo Does Baseball** stars, who else?, the omnipresent Bo Jackson. These two titles, along with **ABC's Monday Night Football**, offer online access via modem to current statistics from USA Today. Keen stuff for sports junkies. Data East will also be continuing their *Draconian* series, with the third entry to be **Full Metal Planet**. It features an industrial warfare scenario set both in space and on a mining planet.

The best news I had at CES, though, came during a couple of hours spent in *Psygnosis*' suite at the impressive Swiss Grand hotel. They are well aware of the playability problems with their last few releases and are addressing them with a creative vengeance. [See the INFOmania column in this issue for a few words on *Infestation*.] As I have been told repeatedly by various sources, the difficulty of getting past the beginning of Psygnosis' games is only a problem in the U.S. (Apparently, Europeans have absolutely nothing else to do in life but play games.) What I saw of their new titles was astounding. Two of them, **Puggsy** and **Cutiepoo** (working title), are a radical departure into cuteness (the non-saccharine variety) and humor. The animation is the best from Psygnosis yet, and both games will be accessible to kids as well as adults. I wouldn't be surprised to see the characters licensed and turning up as stuffed toys and the like. **Carthage** is coming right along, and the chariot racing sequences in it are the best since Ben Hur. Psygnosis is also proving that they can do much more than arcade-type games; they're entering the fantasy/roleplaying field with **Tempus** (working title). The game has sections in both 2D and 3D views, and uses some outstanding fractal landscapes in places, the first I've seen that does. It was in **Beast II**, though, that I saw how Psygnosis is handling the playability problems. The game itself, of course, sets yet another new standard, and more than solves the problems of the original *Beast*. It operates in a sort of super-demo mode that will play each screen (or even the whole game) for you, but you can jump in at any time and take up control yourself. If you're killed off, you can pick up where you left off without having to sit through interminable reloading sequences. Each time I see the new entertainments Psygnosis is developing, I marvel at how they're always able to top themselves. I can only dream about what they're cooking up for CDTV.

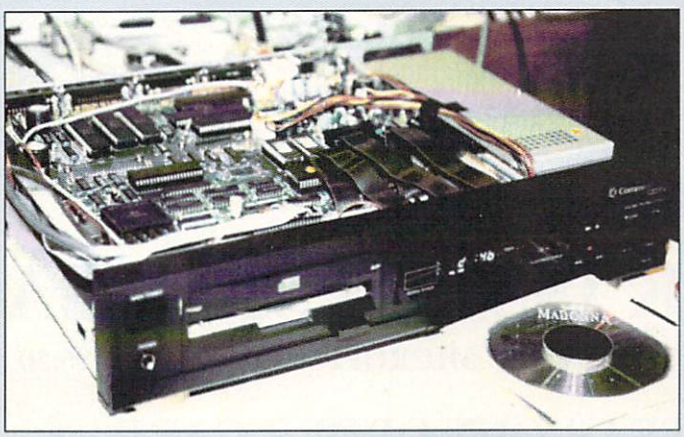
There were, of course, thousands of other new toys to be seen at CES. It seems that no matter how hard I try to reserve time to see the non-computer stuff, I invariably wind up with only a couple of hours to browse. I can't complain too much, though; seeing the new Amiga products was worth every minute spent on them. Given the quantum leap in the quality of software over the past year or so, I can't wait to see what will happen by the time Winter CES comes around in January.

C D T V

Commodore's 'Baby', officially dubbed CDTV.

Called the "Baby" by those who designed it, Commodore's new interactive CD-ROM unit has been officially labelled "CDTV," which stands for Commodore Dynamic Total Vision. The unit itself looks, very deliberately, like a stereo component; it has a remote control and is just as easy to operate. By giving it this look, Commodore hopes to bring Amiga computing to those who are intimidated by computers in general. CDTV is actually an Amiga in modular form; a separately available infrared keyboard, mouse, disk drive, and other peripherals can be plugged in to make it a full-blown Amiga. The unit comes with 1 Mb of chip RAM, along with a non-volatile 64K RAM card that fits into a slot on the front of the machine, which will permit games and other data to be saved. The machine has two internal slots, one for video (genlocks, etc.) and one DMA (for SCSI, networking, and the like). The back of the box has the standard Amiga ports (parallel, serial, disk drive) along with what Commodore calls a "hardwired alternative to IR for keyboard, mouse, or joystick." However, the strongest selling point is that it can be hooked up to a regular TV (though it also has RGB output) and used right out of the box. It's a philosophy that just may work if Commodore takes the right marketing approach. At the official roll-out party, Commodore's newly appointed manager of Interactive Consumer Products division (and Atari founder), Nolan Bushnell, had the crowd at a fair level of excitement until he started talking about using the educational aspect of CDTV as a primary selling point, asserting that it would completely revolutionize education in this country. That's probably a bit optimistic. As several attendees later remarked, the very word 'educational' is usually the kiss of death for any mass market electronic product. While I don't quibble with the machine's profound educational value, I agree with many others that touting CDTV as the next step in home entertainment systems is the most logical way to push the machine. By the time CDTV units hit the shelves in the Fall, Commodore claims more than 100 software titles, ranging from encyclopedias to cookbooks to what are bound to be extraordinary games, will be available, with 200 available by Christmas. The machine can also read standard Sony/Philips format CD-ROM disks and play audio CDs (at 8 times oversampling) and CD+G disks, another strong selling point. Software developers, and game publishers in particular, are excited by the fact that CDTV will virtually eliminate software piracy. There just isn't any practical way to copy the CDs. While the final price has yet to be set, Commodore says it will be under $1000. The general reaction at CES was that if Commodore somehow manages to avoid its customary practice of shooting itself in its collective foot, CDTV has the potential to become as widespread as the C64. Apple pushed the Mac as "the computer for the rest of us", but I think CDTV fits the description much better. CDTV could be the computer for the rest of the world.

- Tom Malcom



'Baby' guts, showing how much Commodore can cram into a small space.

INFO

SIX YEARS OF COMMODORE COMPUTING

#1 INFO 64, Fall 1983
Premiere issue! Review and product guide, Games, Flexfile 2.1, Sorcerer's Apprentice.

#2 INFO 64, Winter 1983/84
Guide toC64 products, Koala pad, Flexidraw, UltraBASIC-64, Home Accountant vs. C.P.A.

#3 INFO 64, Spring 1984
Product Round-up: 1000 product listings for C64, Superbase 64, Commodore LOGO, C64 Forth, Model Diet, Computer Mechanic.

#6 INFO 64 Spring 1985
Color Gallery! C64 hard drives, Intro to Assembly Language, COMAL 2.01, The Print Shop, Whither C/PM.

#9 INFO Dec/Jan 1985/86
Expanded C64/128, Amiga color gallery, Guide to C128 software, Network Wars, 1571 Disk Drive Survival Guide.

#10 INFO May/June 1986
Monitor Roundup! C64 word processors, Multiplan for C64/C128, Amiga BASIC, Tips & hints.

#11 INFO Aug/Sept 1986
Product Roundup issue: over 1500 hardware and software listings for C64, C128 and Amiga.

#12 INFO Nov/Dec 1986
Graphics report: C64/128 and Amiga painting, CAD, drafting, video animation, tools and utilities. Idea-processors, 8 bit business software.

#13 INFO Jan/Feb 1987
Games issue: C64/C128 and Amiga games. 8-Bit business and application software (part I), Telecommunication networking, Amiga Music.

#14 INFO Spring/Summer 1987
Product Roundup issue: over 2000 hardware and software listings for C64, C128 and Amiga.First look at the A500 & A2000 systems.

#15 INFO July/Aug 1987
1st Annual C.H.U.M.P. Magazine! Commodore & Amiga Survival Guide, Anne Westfall interview, TDI Modula 2, Supra Hard Drive.

#16 INFO Sept/Oct 1987
Graphics Renaissance! GEOS Update, C128 BASIC compilers, Microtroll, Fontmaster, Amiga 500, Sidecar, Genlock, Multi-tasking.

#17 INFO Nov/Dec 1987
ANNUAL GAMES ISSUE! GEOS Update, 16/32 bit comparison, C128 ROM upgrades, B.E.S.T. Accounting, Word Writer 3, DIGA!

#18 INFO Jan/Feb 1988
Desktop Publishing & wordprocessors (parts I), Virus diagnosed, Geos Update, C64 Powerful Cartridges, C128 Superpak II.

#19 INFO Mar/Apr 1988
Desktop Publishing & wordprocessors (parts 2), Leo Schwab interview, GEOS Update, ICT hard drive, Digital SuperPak2, Thoughtform.

#20 INFO May/Jun 1988
Desktop Video: Titlers, genlocks, converters, C64 slide show programs, GeoStuff, AmigaDos 1.2 Bugs, Joel Hagen tutorial.

#21 INFO Jul/Aug 1988
Second Annual C.H.U.M.P. Magazine! Jay Miner interview, Easing The Upgrade Path, GeoStuff, Virus prevention, Over 40 8 & 16 bit reviews.

#22 INFO Sep/Oct 1988
Digitizing, Mac VS. Amiga, GeoStuff, Over 50 reviews for C64, C128, and Amiga computers, INFOmania Game Tips! BRYCE debut!

#23 INFO Nov/Dec 1988
ANNUAL GAMES ISSUE! OVER 100 GAMES IN COLOR!! INFO Mania Game Tips, New Products, News & Views,

#24 INFO Jan/Feb 1989
Amiga 3D Graphics Round Up, Reichart Von Wolfsheild interview, GeoStuff, SuperBase Pro, Spectrascan, Sky Travel.

#25 INFO Mar/Apr 1989
Amiga Animation Round Up, Rodney Chang interview, C128 T.H.I.S., GeoCalc 128, Dr Term Pro, AC/BASIC, Microfiche Filer Plus.

#26 INFO May/June 1989
Paint Program Round Up, Loren Lovhaug interview, Removable Mass Storage, 1581 Toolkit, MicroLawyer, WillMaker, Pen Pal, Graphics Tablets, Lightpen, PageStream.

#27 INFO Jul/Aug 1989
3rd Annual C.H.U.M.P. Magazine! Dale Luck interview, Sound & Music, Fractals, Maverick, GeoProgrammer, Masterpiece, Professional Data Retrieve, Silentwriter LC890, Transcript.

#28 INFO Sept/Oct 1989
Video Boot Camp! High-End Amiga Expansion. Gail Wellington interview, 3D options, Home Town, Viking I, A-Max, Anti-Virus, V.I.P.

#29 INFO Nov/Dec 1989
ANNUAL GAMES ISSUE! Chris Crawford interview, SFX Sound Expander, The Write Stuff 128, The Amiga Companion, Toshiba Express-Writer 301, RawCopy, Mac-2-Dos.

#30 INFO Jan/Feb 1990
Amiga DeskTop Publishing Tools, LOGO, A590 Hard Drive, Dual Serial Board, Abacus Books, Twin Cities 128 book.

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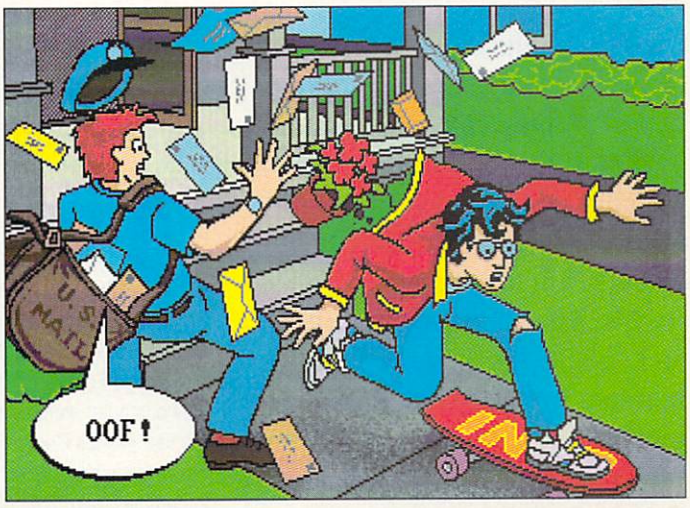

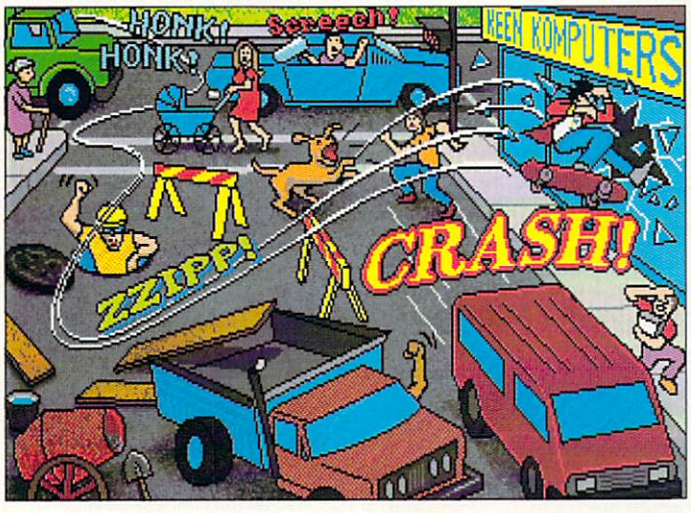

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Be Careful What You Wish For . . .

By John Foust

On the night I bought my Amiga 2500, I wrote a little BASIC program to search through memory and print out any text it found, hoping to find secret messages in the operating system ROMs. The night was stormy, and I could see lightning on the horizon. Just as I was thinking that I should power down to ward off lightning damage, I saw a flash and all the monitors went dim. For a fraction of a second, the TV became a sea of images from every channel. Strange sounds, like rural AM radio, whispered from the stereo. I thought I heard my own voice among the static.

One by one, the computers recovered. When I sat down at my new Amiga, I discovered a single file in the recoverable RAM disk. My memory-search program was gone.

The file's name raised the hair on my neck. I recognized the pattern. "McGinnis-091191.TXT" is what I'd name a file that held an article about someone named McGinnis - if I was writing it on September 11, 1991. With trembling hands, I loaded the file into my text editor. The writing style was my own. The storm had brought me a file from my own future. I present it to you now, unedited, as a warning.

Amiga Dealer Weekly September 11, 1991

Dealer Spotlight

By John Foust

This month, "Dealer Spotlight" features Steve McGinnis, the owner of an Amiga dealership in St. Louis, Missouri. Formerly an independent Commodore dealer, McGinnis's store is a part of the "Amiga Forever" chain of over 500 Amiga-only computer stores. According to franchise founder Franco Carlucci, McGinnis's store has consistently been in the top five in sales since it joined the chain. This is McGinnis's story, in his own words:

"One of our salesmen started the local Amiga user group, right here in the store. The number one topic of conversation was Commodore. We'd gripe about their lack of advertising. We'd dream that they'd soup up the Amiga with faster processors and better graphics. That was back in 1987 or so. We were quite a bunch of armchair quarterbacks. We really wished the Amiga would hit the bigtime, to be as popular as the Mac and the PC.

We had no clue about what was going to happen in late 1990, what with all the problems at Apple and Microsoft, and Commodore's turn-around. We thought we understood the way Commodore worked. After all, we had the evidence of history. Irving Gould would fire the company president and hire a replacement from Apple or Pepsi. Then at the COMDEX dealer meeting they'd make the standard "Really Big" announcements: that Commodore "had their act together now"; that they "hired some Really Big executives"; and that they planned "some Really Big advertising" to help turn things around. We'd all try to look happy and encouraged. After all, they were buying the drinks. But back in our hotel rooms, we'd laugh.

"In mid-1990, when hope petered out for Windows and OS/2 on the PC, and System 7.0 on the Mac wouldn't run, many dealers started looking for something to sell to satisfy their customers. They'd heard what multitasking and multimedia could do. They'd seen Apple's videotapes and IBM's commercials. But Apple and IBM weren't delivering, and Commodore was.

"Sales were great in the fall of 1990. We pushed out Amiga 3000s like mad, about forty a week out of this store alone, and twenty a week from our store in the suburbs. We hired six new salespeople.

"But then the software companies caught on. They repositioned their products to look more "professional," raised their prices to match, and suddenly you couldn't tell the Amiga software from the Mac stuff.

"Sure, it was hard for some Amiga developers to afford the higher fees for the support program, and the big conferences, and the higher costs of advertising. But this just cut out the deadwood, and that's a good thing - even though some of them did have nice products. The stricter requirements for dealer certification cut more deadwood. And now we don't have any competition in the metro area.

"One thing really breaks my heart, though. My old customers, the guys who started the Amiga 1000 user group, they stop by the store and about all I can sell them is disks and mousepads. They can't afford the new stuff. I still stock a few European games that run on the older Amigas. And they still buy magazines, especially *AmiGamer*. But even *.info* went upscale, you know? And now they tell me the user group has split in two, one group for the owners of the old machines, and one for the new."

As this interview came to an end, McGinnis seemed somber. In a corner of the store, someone turned on a dusty Amiga 1000. He heard the "byoopy-doop-byoop" startup sound, and his eyes grew misty. "I'm glad things have gotten better for Commodore. Business is great for us, too. But I guess Jiminy Cricket was right. You have to be careful what you wish for, because you just might get it."

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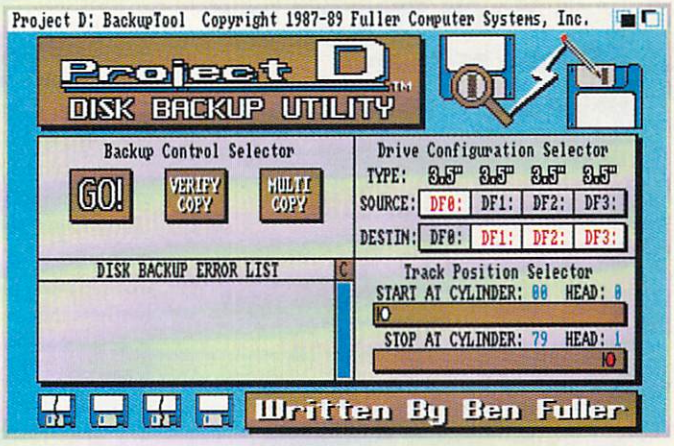

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The *.info technical support* section is put together by Nick Sullivan and Chris Zamara, long-time players in the Amiga magazine game. Nick and Chris were founding editors of the now-defunct *Transactor for the Amiga*, a technical magazine for programmers and people hoping to learn enough to someday understand at least part of the contents of its pages each month. They are now full-time software developers, heading their company AHA! Software from scenic Victoria, British Columbia. (AHA! is best known for *Transcript*, the high-performance wordprocessor published by Gold Disk.) Currently working on new products and documentation, Nick and Chris are happy to enter the magazine world once again and make *.info technical support* an exciting place for Amiga users of all interests.

BITMAPS AND FORMATS

Sorting out the graphics mode maze

by Derek Grime

The Amiga is truly a graphics computer. Its visual power has been used to produce everything from video store flyers to animations for network television. A computer with this sort of scope supports a whole range of graphics modes. Acronyms like HAM, EHB, and SHAM abound. What do they mean? When should they be used? Sometimes it's hard to know where to begin.

The Amiga offers several resolution modes. On the low end we have 320 pixels wide by 200 high. The standard high resolution mode on the Amiga is 640 pixels wide by 400 high. While this makes it seem that the high-res mode has only twice the resolution of low-res, it actually has four times the resolution. This is easy to understand when you visualize that four low-res pictures will fit on one high-res screen. All the different Amiga display modes are formed by combining high and low resolution in different combinations. For example, the medium resolution that is used for the WorkBench is 640 wide by 200 high. Purists might argue that the Amiga is capable of even higher resolutions than we've covered here. It is. Programs created for video output allow graphics to go off the edges of the screen, into the overscan area. This makes the visuals cover the entire screen when they are shown on television.

After resolution, the next big issue the Amiga artist faces is colors. How many can we use and how many are too many? The Amiga gives you a range of 4,096 colors. Different display modes let you make your selection from this range. Low resolution lets you pick thirty-two colors and hi-res lets you pick sixteen. That doesn't seem like a lot to work with until you consider that you can choose any colors you want from the total palette of 4,096. If you were creating a seascape with a cloudy sky, it would be wise to use as many blues as you could. It's this ability to choose the best colors that puts pictures created on the Amiga in a different class from systems with equal or better resolution but less colors to choose from. Careful color selection can make an Amiga picture appear to be drawn in a much higher resolution than is actually is. This technique is called anti-aliasing or smoothing and involves blurring the foreground elements into the background. Some software will do this automatically. It's used heavily in video game artwork where low resolution is the norm.

It pays to get in the habit of really thinking about how you want the finished graphic to look before you begin. In this way you can select the colors before you even make the first brush stroke. Even more important, you can be sure you won't get stuck with too few color choices when your masterpiece is almost finished.

Amiga engineers have offered the artist even more ways to squeeze extra colors out of the system. One method is to use extra halfbrite. EHB lets you make your regular color choices and then builds a second fully functional palette from the first. Palette number two has only half the intensity of palette number one. This means that if you created eight gray tones ranging from fifty to one-hundred percent, EHB would give you another eight grays ranging from zero to fifty percent! Your color range is effectively doubled. Some care has to be used when choosing your EHB palette. Keep in mind that if any of your colors have a value less than fifty percent they will turn out black in the second palette. Extra Halfbrite is a hardware feature and is not supported on some of the earlier Amiga 1000's. Upgrade chips are available from your local dealer.

Hold and modify is another unique color display mode. HAM lets you have all 4,096 colors on the screen at once. The basic palette contains sixteen unique colors that

are then modified to give you the rest. While it is a powerful option, HAM does have some limitations. If the base palette is altered while you're creating your picture, some 'fringing' will occur on the image. Painting in HAM is a little slower than in the standard modes. Despite this, HAM is still one of the Amiga's best features and well worth experimenting with.

There are also some newer color modes that have been with us for only a short time: the so-called "Sliced HAM" and "Dynamic HiRes" modes. Based on the standard HAM and Hi-res modes, these modes are created by special software and can produce much better display quality than the standard built-in graphics modes. SHAM and Dynamic HiRes allow the user to have over four thousand colors on the screen at once with no fringing. To accomplish this magic, the picture is actually switched row by row using the Amiga's built in graphics coprocessor. This pushes the hardware to the limits. Because Dynamic HiRes is so difficult for the Amiga to display, the computer can't really do anything else while using this mode. That means that you can show a picture but you can't play with it. As they say, "there ain't no such thing as a free lunch." Maybe in the future we'll see more research done into Dynamic HiRes. Who knows what the developers will be able to do with it? After all, once upon a time even HAM was thought to be too complex to do anything useful with.

When to use what

Armed with a little knowledge, you can make intelligent choices about what format your graphics should be in. Let's try some examples.

Real-time animation requires lots of computerized horsepower. You should try to go easy on the colors and resolution so your Amiga can display your pictures at a good speed. A high resolution picture contains two hundred and fifty-six thousand pixels. When you have to show ten of these every second you can see how quickly the numbers add up. Try low-res instead. Colors will also slow the system down. Dropping from thirty-two to sixteen will almost double your animation performance. Make sure that you are cutting the actual number of bit-planes used, and not just using some of the available colors. Many times you can even get by with only eight colors. A trick we use that gets fantastic results is to record a still background onto videotape. Then genlock an eight color animation on top of it and record the two together on a second VCR. The audience can't tell the difference and there are no slow-down problems.

This is a HAM-mode picture using interlace, 352 pixels wide by 480 high. This makes it an 'overscan' picture, since it uses more than the standard 320 by 400 resolution for this graphic mode. The black-and-white bands in the right corner show how the image would appear if rendered using less colors; note how the lines become more jagged.

When recording to tape keep in mind that most videotape formats have very low resolution. Fine detail on a hi-res display can often be unreadable on videotape. If you stick to a low-res interlace display you can't go wrong; you'll have to take extra care with graphics on hi-res displays to make them stand out.

If your hardcopy is slides, the more resolution the better. Remember that when a graphic is projected at ten by ten feet, all the problems are magnified too. Try to use sans-serif typefaces (without the tails) and use a little smoothing as well. Be subtle with your colors. If you are preparing the graphic as a job for a customer, let them know what they are getting before you quote on the job. The industry standards are high - be honest about what you can deliver.

Print is a whole other ball of wax. A newspaper photo is printed at only about sixty-five lines per inch. That's about the same as the Amiga monitor in hi-res. Sometimes the customer will accept this. Sometimes they won't. Laser printers are much more demanding. To get the three hundred lines per inch required by most lasers can be tricky. Printed at full size, your hi-res screen graphic would only be about two inches across. To get around this limit just create bigger pictures. The INFO logo on the front of the magazine is done this way. So is the clip art from *Joe's First Company*. Paint programs like *Deluxe Paint III* let you work in oversize modes.

The best type of graphics for print are structured drawings. Basically, a structured drawing is a bunch of mathematical formulas representing curves, arcs, circles, and lines. The great thing about this method is that your picture is turned to hardcopy using the resolution of the output device. Printed by a laser printer, your art will look like it was designed with drafting equipment. No 'jaggies' here because no pixels are used. The downside is that drawing a picture in this way can get a little tiresome. It's certainly slower than using a traditional paint program.

Finally there is one last method you should know about: pictures that have more colors than you can see on the screen. Some programs, like *Digi-View* work in two million colors. Others like *Sculpt 4D* and *Turbo Silver* can render images with over sixteen million colors! At the present time the Amiga can't show these images unless you have a special device called a frame buffer. These pictures can be transported to color printers, film recorders, and workstations and viewed in all their glory. Look in the near future for paint programs that work with these huge palettes on the Amiga.

The best way to find out what form of graphic suits your chosen media is to experiment. Try to get as close to the final resolution as you can on the Amiga. Fortunately for us, the Amiga can handle almost any sort of graphics problem we can throw at it and come out looking like a champion.

Derek Grime is president of Beyond Graphics, a Toronto-based studio that uses the Amiga to produce animation and visuals for television productions. Derek can be contacted at P.O. Box 1249, Station F, Toronto, Ontario, Canada, M4Y 2V8

Why ARexx?

More than a language - a standard worth learning

by Chris Zamara

You can't be a serious Amiga user for long without at least hearing about the ARexx programming language. More and more software products advertise "ARexx support," and it's well known that ARexx will be included in the next system software upgrade, version 2.0. The obvious question that comes to mind is "Why ARexx?" Is it just another programming language like BASIC? Is it just to allow easy communication between simultaneously running applications? No, ARexx is much more than that, and could play a large role in determining how we use our Amigas now and well into the future. This article is a general introduction to what ARexx is, what it can be used for and why it is important. In future issues, we will deal specifically with how to use the ARexx system and how to write ARexx programs.

ARexx is a general purpose programming language with the ability to communicate with programs currently running in the system. Like most BASICs, it is implemented as an interpreter, so it is easy to work with and debug in, but does not execute its programs as quickly as if they were written using a compiled language like C or Modula 2. While ARexx can be useful for many everyday tasks, programs written in ARexx are not meant to be applications by themselves: you wouldn't write a paint program or a spelling checker in ARexx, for example. Rather, ARexx programs (or 'Scripts') are usually used to control an application that has an ARexx interface. An ARexx script is an automatic way of getting a program to perform operations that you would normally have to do manually using menus, gadgets, or whatever the program's user interface requires.

The basic ARexx language consists of general commands that you would find in most languages, while additional commands are defined by the program you are communicating with. Each application program will define its own set of extra commands, providing access to some or all of its operations.

A program's ARexx interface usually parallels its user interface to some degree; user interface operations work by direct mouse or keyboard commands from the user, while the ARexx interface operations work via commands from an ARexx script. Some programs offer all the functionality of the user interface through ARexx, some may offer a subset of important operations, while others

Creating the "steps" text boxes:

Manual method

1. Select menu item to create text box
2. Reply to requester
3. Position text box

Repeat steps 1 to 3 for each of the six "steps". If the positions need to be changed, reposition each step in the same way.

Using an ARexx macro

Enter and execute the following macro program:

```
do position = 1 to 6
textbox position*4, 20+position*4, 6, 4
end
```

The number of steps and the position of each one can be changed with slight modifications to the macro.

may provide a greater degree of functionality through ARexx than through the user interface. With some applications, you may have to create your ARexx scripts with a text editor and execute them with a CLI command; other programs will provide built-in support for creating, editing and running the macros. How a program implements its ARexx interface varies from application to application.

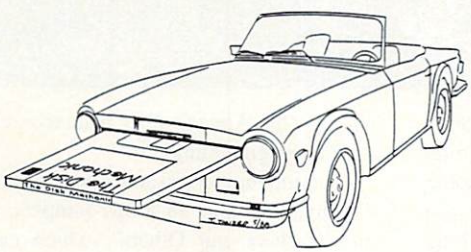
The ability to control an application's operations through the use of another program has instant appeal to anyone who is a programmer; all sorts of possibilities arise. But what about the average user? Can he or she reap any benefits from this quantum leap in program control? The short answer is obviously yes, otherwise this article would have to end right here. The benefits aren't very hard to appreciate either, when you consider this: wide use of ARexx interfaces in applications means **a standardized macro language.** I write this in boldface because it is a very powerful and important concept, one that can put the Amiga ahead of any rival system if the standard is maintained and respected (and ARexx being part of the operating system should ensure that).

Macros are familiar to users of high-end spreadsheets, databases, and some wordprocessors. A macro is a way to 'program' a series of frequently done operations. For example, a useful wordprocessor macro might be to italicize a word, to create a heading by centering and changing the type size and style of a phrase, or to enter a predefined proper name into the text. Macros for spreadsheets can be very complex, involving a complicated series of conditional tests and calculations: they are miniature programs in themselves, directing the control of the application in the same way that the application directs control of the system's hardware and operating system.

In the MS/DOS world, a healthy market exists in the sale of just macros for a single product. Any serious application is greatly improved by supporting macros of some kind, and how completely they are implemented can determine the flexibility of the program. Can you edit your macros easily? Do they allow if-then-else conditional tests? Do they allow variables and expressions?

Ideally, every application would support a programming language capable of implementing a wide range of sophisticated macros. Requiring each application to provide its *own* macro language, however, has serious drawbacks: bulkier programs, longer development times, higher costs, and - perhaps worst of all - the burden on the user of having to master a new language for each application. By now you may begin to see the benefits of a standardized macro language that is separate from the application it controls.

Adding an ARexx interface to a program is generally simpler than creating a complete, general-purpose macro facility, so developers have two incentives for implementing macros through ARexx scripts: lower development costs, and greater standardization. For users, there is the equally important advantage of having to learn only one macro language plus the special com-



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New From Lake Forest Logic

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Macro Paint

The first high resolution paint package for the Amiga. With Macro Paint you can paint in high resolution (640 pixels wide) using all 4096 of the Amiga's colors on a high resolution screen at once. Powerful ARexx support is built in, making it possible for you to add custom functions or integrate Macro Paint with other programs. At a suggested retail price of $199.95, Macro Paint will be available in August, 1990.

Lake Forest Logic, Inc.
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mands for each program you use, not a whole new language each time. The number of applications supporting ARexx already makes this worthwhile, and with the new multi-media programs and other exciting products on the horizon, learning ARexx seems to make more sense all the time.

How does it look?

Anyone who has programmed at all in BASIC or any other language should not have too much difficulty learning ARexx programming. Those who haven't programmed at all should be able to learn the basics of using the language, at least to create simple macros, without too much effort. A distinguishing feature of ARexx is that its variables are "typeless", meaning that you can treat character strings in the same way as numerical values - the interpreter stores everything as strings, and converts as necessary. This means you can code something like:

```
something = "I am a string!"
say something
something = 3
say something + 2
```

This flexibility, coupled with the fact that variables don't have to be initialized before they are used, makes ARexx programming very casual. Despite this, it can also be very powerful: the **interpret** command, for example, lets you interpret a character string as if it were part of a program. This lets you write program code that generates other code, a technique that can allow shortcut solutions to otherwise complex programming problems.

As a theoretical example of how you could use an ARexx macro to help you in an everyday situation, consider a fictitious desktop publishing program with an ARexx interface. This is illustrated in the accompanying diagram. Suppose you wished to create the sample page shown, which contains six text boxes to create the 'staircase'. Assuming that the program doesn't have some kind of automatic staircase-generating feature, the simplest way to achieve the effect would probably be to make separate 'text boxes' for each step, then fill in the text. This would involve creating and positioning each box separately, which might involve making a menu selection, using a requester, and positioning a box with the mouse for each of the six boxes. To create the text boxes with an ARexx macro, you could just type in a little program similar to this:

```
do position=1 to 6
textbox position*4, 20+position*4, 6, 4
end
```

In the above macro, **textbox** is a command that our imaginary desktop publishing program understands; it creates a text box given values for the specified position and size (in picas, or 1/6 inch). The position is given with a calculation using the variable **position**, and the command will be executed six times, each time with a different position value, thanks to the **do** loop. Not only is this less work than the manual method, but it is more accurate than moving the boxes with the mouse. Even if the manual method allowed entry of values for position and size, the ARexx macro is superior since the calculations are done automatically. And perhaps the greatest benefit of the ARexx macro approach to this kind of problem is its flexibility: by just changing a few numbers, you could create more boxes, position them in a different pattern, etc. The manual method would require you to move each box or create new ones using the same laborious process again.

Other than providing a standardized macro language, ARexx is important because it allows one program to communicate with another. A macro in the desktop publishing program, for example, might load a HAM-mode picture into a paint program, render it several times in different sizes, then use the resulting picture in the document. This could all be done without having to use the paint program manually at all! Interprocess communication is one of the benefits that a multitasking operating system provides, and using ARexx can exploit that advantage fully.

Now that you know 'why' ARexx, you may want to learn more about what it is and how to use it. Unfortunately, the ARexx documentation is a bit advanced for first-time programmers, so while it is a vital reference, it may not be the best place to start. Because of its importance, we plan to keep ARexx as an important focus of the Info technical section, so you'll be seeing some detailed tutorials in the upcoming months.

MAINSTREAM PROGRAMS

Programs That Travel Well

by Jim Butterfield

Here's a collection of ideas about how Amiga programs can be more generally useful to users. Sometimes a simple change to a program can make it usable by many more Amiga owners. I call programs that are available to a wide range of Amiga configurations 'mainstream' programs.

A programmer might write something that's fine on the original computer, but doesn't travel well to other computers. Maybe that doesn't matter: the program might not have been intended to travel. But if you want to pass it around, it's nice to observe a few rules.

The Amiga is a standardized computer. All Amiga models run according to the same principles. But you may have noticed that some early programs stopped working as the Amiga upgraded to more advanced hardware and operating systems. These programs fail because they use 'gimmicks and wrinkles' of the Amiga rather than sound mainstream programming.

Commodore has issued a document called "Official Warning to ROM-Jumpers, Structure-Hackers and Others", which cautions against bad coding practices. I won't be as technical as that: this article will talk about simpler ideas that can be used to help create an Amiga program that will be of general use.

You don't need to write programs to find these ideas of interest. If you're a user group librarian, you'll want to rate programs according to their range of user compatibility. And if you do happen to be a programmer, it's useful to keep some of the following things in mind.

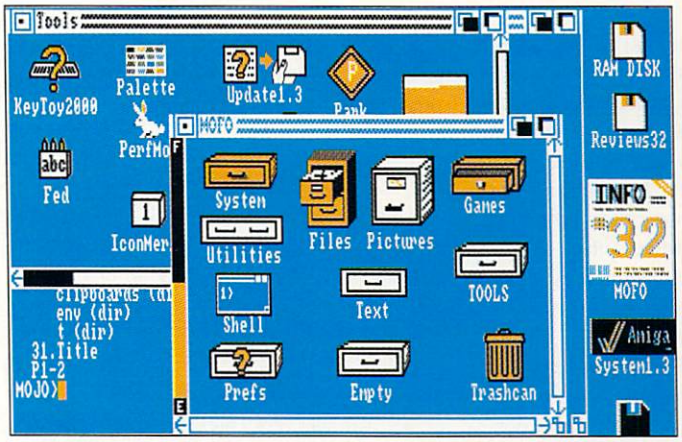
PRT: versus PAR:

Most of us have a printer connected to the Amiga's parallel port. It doesn't seem to

matter if we send text to PRT: (the printer port) or PAR: (the parallel port); it will end up at the same device.

Here's the rule: always sent to PRT: unless you have an unusual task that is printer-specific. The printer driver used with PRT: does marvelous things. It knows how to do many clever things such as underlining, setting compressed or expanded modes, or creating special characters. Each type of printer does these in a different way. But PRT: works with your selected printer driver to do these jobs 'transparently'. A typical program need not worry about printer details if it sends to PRT:.

A quick example will show you how useful this can be. In a CLI or Shell, type the command: **ECHO >RAM:AAA "I *e[4m never *e[0m smoke!"**. This will create a file called "RAM:AAA" containing some text, part of which is intended to be underlined. You could send this document to the screen with **COPY RAM:AAA *** (the asterisk signals the current console window). You'll spot the underlined word. If you send this file to your printer using **COPY RAM:AAA PRT:** you'll see the same result, complete with underlining. That's true no matter what make of printer you have. But if you send to PAR: instead of PRT:, you'll see a mess. To make it work with PAR:, you would need to know the character streams that switch underlining on and off for your printer; and these wouldn't work on somebody else's printer.



Choose drawer icons that look like containers.

If your printer does unusual and special jobs you might need to use PAR: to trigger these. But the resulting program would not be usable except on your printer.

If you're a programmer, try to have your programs use PRT: for printer output. If you're a librarian, check programs to see that they work with a variety of printers.

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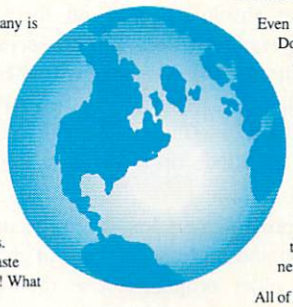

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DISCOVER

WIDTH: 60 or 80.

A user will call *Preferences* to set screen width. Users with good quality monitors set it to 80 characters. Users hooked up to television sets, or addressing a group through display monitors, set a width of 60 characters for easier readability. Unless there's a special need for one or the other, programs should cope with both. More - they should allow for the coming generation of Amigas, which will be able to use a richer array of fonts and new screen densities.

Programs in AmigaBASIC often have difficulty with this one. When mixing graphics and text, the programmer uses 'pixel' coordinates for such graphics commands as POINT, LINE, or CIRCLE, but must use "character" coordinates for positioning text with the LOCATE command. The correct ratio between the two coordinate systems will change according to the font. Similarly, if you put a list of items on the screen and ask for the user to select one of these using the mouse, your program will need to relate the incoming mouse coordinates, measured in pixels, to the text.

Here's a quick piece of AmigaBASIC code that will tell the programmer how large the characters are, measured in pixels.

```
xptr=WINDOW(8)+36
yptr=xptr+2
LOCATE 1,1
x1=PEEKW(xptr)
y1=PEEKW(yptr)
LOCATE 2,2
x2=PEEKW(xptr)
y2=PEEKW(yptr)
PRINT "Width = ";x2-x1;"Height = ";y2-y1
```

The situation would get tricky if proportional fonts are used, since there would no longer be a standard character width.

No matter what language you use, try to be friendly with text output. If your program writes text to a standard console window, keep each line within the 60 character limit. Do the same when writing documentation for others to read. Otherwise, some users will end up looking at 'folded' or incomplete lines.

Programs written in a compiled language such as C often set up their own Intuition screens and windows. In this case, the programmer can decide on fonts and screen resolution. Unless there's a need for fine detail, use lower resolution: budget Amiga owners, hooked up to TV sets or composite monitors, will be grateful.

If you're a programmer, try to keep your text within 60 columns. If you're a program librarian, check to see which programs will work nicely within 60 columns.

RAM: Chip versus Fast

The first Amigas used just one type of memory, called 'chip RAM'. This type of memory is accessible to the computer's custom chips, and is especially useful for video and sound activities. Some disk operations also take advantage of this kind of memory for fast disk data movement.

As Amigas got bigger, extra memory became available, most of it 'fast RAM'. You can add lots of this type of memory, but its contents are not available to the custom chips.

Early programs sometimes assumed that all memory was chip RAM. This turned out to be a serious blunder. Some programs put video and sound data wherever it would fit; in Amigas with expanded memory, the custom chips couldn't reach this data!

'Fixing' this problem sometimes created a new difficulty. A quick way to get out of the first pickle was to modify the program so that it would be forced to load into chip RAM. That's a bad solution: chip RAM is limited in size, and such 'hacked' programs would needlessly use up this precious resource.

The right way to do the job is to specify chip RAM only for those parts of the program that absolutely must go there. The Amiga operating system will conserve chip RAM if it can. Unless instructed otherwise, it will allocate memory from fast RAM if any is available. Chip RAM will be used only if specified, or if no fast RAM is available.

Most programmers know how to do this right. You should find this kind of problem only on older programs. Use the AVAIL command liberally, and watch for the programs that gobble up chip RAM: when you're out of chip RAM, you're out of computer, no matter how many megabytes of fast RAM are left.

If you're a programmer, you probably know how to handle RAM usage properly; but check your old programs to see that they behave. If you're a user group librarian or user, check memory usage with AVAIL to see how much RAM, and what type, a program grabs.

Custom Icons

This isn't a programming item; it's more about how program and data files are presented. I think that all Amiga owners love to customize screen images. In particular, it's fun to use programs from the Extras disk Tools drawer - currently IconEd and IconMerge - to draw your own icons. Your windows can be filled with a splendid array of fantasy figures.

If you do this, could you please make sure that drawers still look like containers? I don't mind them looking like filing cabinets, treasure chests, or even buckets. But when I get a new disk, I like to know which items are programs and which are drawers. I'll happily double-click on a drawer to see what's inside; but before I activate a new program, I want to read the documentation files.

Take your cue from such things as the Preferences drawer icon on Workbench 1.3. It's a picture of a drawer with a question mark superimposed. There's no doubt about it being a container.

If you're a programmer, decorate your program and data file icons as you please, but let the drawers continue to look like drawers. If you're a user group librarian, think of correcting any drawers that don't look appropriate.

Redirection

When a program is started from CLI or Shell, the user has the option of redirecting its output. The program output normally goes to the screen; but it may be 'redirected' to a disk file or to the printer. This is done by putting a redirection phrase (starting with the > symbol) immediately behind the command word.

A good programmer will anticipate redirection, and write the program so that this feature is supported gracefully. Normally, redirection does everything automatically: the output stream is switched, and that's that. But what about error notices and prompts for input? You don't want those to go to a file; you want them up on the screen where they can be seen, despite any redirection that may have been invoked.

Let's discuss AmigaBASIC first. Redirection of AmigaBASIC programs from CLI will produce strange results, so you won't see that combination very often. But the user will still want to specify where the output should be sent.

It's best to have your AmigaBASIC pro-

gram begin with a question asking where the user wants output to go. Depending on the response to this question, the program can open an output file to either SCRN: (screen) or PRT: (printer; I prefer using PRT: rather than LPT1:, but either will work). You may expand the question to allow output to be sent to a disk file, of course. From this point on you should use command PRINT#... for all normal output. The data will go to screen or printer depending on how the file has been opened. Special output, such as error advice or user prompts, will use standard PRINT so they always go to the screen.

In a language such as C, you may use the standard 'print' functions (such as **printf**) for normal output. Redirection will switch the output stream wherever it has been specified. Material that you do not want to be redirected should be sent to *stderr*, the 'standard error' channel, which is not redirected. Typical code for this in C would be:

```
fprintf(stderr,"Read my bits!");
```

If you work in assembler, it's still not hard to segregate the two streams: redirectable and non-redirectable. Your normal output stream, subject to redirection, is obtained with a call to the DOS library function **Output**; this will return the output handle, redirected or otherwise. To reach the calling CLI window, ignoring any redirection, open a file with name * (the asterisk means 'the current console window'). Output to that file will be directed to the *stderr* path.

Of course, you may be working with Intuition and creating your own screens and windows for information display. If so, you'll likely want to show special user messages on a custom window or by means of a 'requester'. Once you plunge into Intuition, user interface takes on a whole new dimension.

If you're a programmer, allow for user redirection. If you're a user group librarian, check new programs to see how they behave under redirection.

Summary

If you're a user, check each new program when you get it. Does it work well with alternative fonts, such as the 60-column screen? Does it behave well under redirection? Does it talk to your printer in a satisfactory way?

The program may have worked well for the person who wrote it. But if the programmer didn't anticipate the impact of other Amiga configurations, the program may not travel well.

If you're a programmer, keep such questions in mind. And if you're a user group librarian, try to keep a log of which programs are 'universal' and which ones are limited to a specific computer configuration.

Jim Butterfield is a Toronto writer, programmer and lecturer whose association with microcomputers goes back to the 1K KIM-1 in the earliest days of Commodore computing. Jim's ability to communicate his encyclopedic knowledge of CBM products through articles, books, lectures and television programs have made his name a household word among Commodore users around the world.

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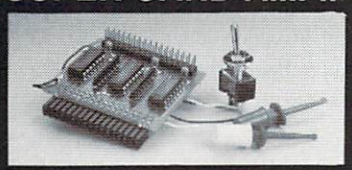

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Three ways to enhance Amiga performance

by Nick Sullivan

One trait that most computerists share is a desire for better machine performance: for more speed. Since 68020 and 68030 boards, which answer this desire nicely, aren't within the range of every Amiga owner's pocketbook, it's worth considering some other ways of extracting a little more zing from the machine, particularly in this era of increasingly powerful, and increasingly slow commercial software.

Method 1: Make commands resident

A large part of the computing activity of many Amiga users consists of repeatedly invoking a rather small set of CLI commands: Dir, List, Type, Rename, Delete, Echo and Execute, for example. Before Workbench 1.3, it was common to make these commands more efficient by running them from RAM: rather than from the Workbench floppy. Nowadays one can do even better by making such commands 'resident'. Resident commands are stored in memory rather than on disk, and run in place rather than being loaded anew every time they are invoked. The resulting performance improvement over floppy-based commands is very marked, as though the commands were 'built-in' rather than existing as separate programs. To make a CLI command resident, simply add a line like the following to your startup-sequence:

```
resident c:Dir pure
```

The keyword 'pure' means that the given command can be run in multiple incarnations simultaneously - that it is 're-entrant', which is not the case with programs in general but is true of most CLI commands. The re-entrant commands will show the 'p' attribute when Listed, thus:

```
>List c:Dir
Dir    2200 --p-rwed 28-Mar-89 18:11:36
```

The letter 'p' in '--p-rwed' shows that Dir is a re-entrant command and so the 'pure' keyword is appropriate when making it resident.

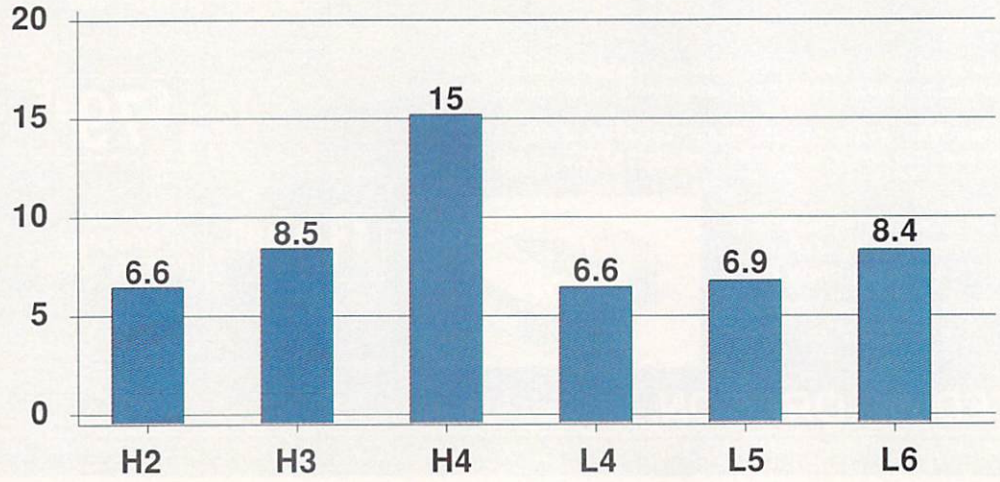
Method 2: Minimize layering

One service provided by the Amiga's operating system so permeates our interaction with the computer that most of the time we are scarcely even aware of its existence. This is the management of display layers, the overlapping rectangles into which the display is organized, by means of which screen images are preserved 'off-stage' even when the windows containing them are partly or completely obscured by other windows.

The management of layers is rather complicated; on a screen with several windows, it is also rather time-consuming, as the operating system must continually subdivide the screen into small areas, and recalculate the relationships between each area and all the others. To see the burden that layers management places on the Amiga's display routines, try opening several windows of varying sizes at scattered locations on the Workbench screen, and use the Type command to show a text file in a CLI window. The text will be displayed in perceptibly discrete chunks, particularly during scrolling.

For the same reason, resizing and reordering windows on a screen with many windows takes significantly longer than on a less crowded screen. The computer seems clunkier and less responsive. Programs run under these conditions will seem comparatively weak in performance, though whatever actual computing they may do will in fact be unaffected.

Whenever possible, then, try to have as few windows as possible open simultaneously on a given screen. Don't leave Workbench windows open when they're not needed, for instance. When a program gives you the alternative of running on a custom screen or on the Workbench screen, run it on the custom screen if there is no conflicting consideration. And if you are *writing* a program in which it would make sense to offer this choice, please do so: your users will thank you.



Relative performance of a stock, unexpanded Amiga 1000 while displaying different graphics modes. The legends at the bottom of the graph denote the resolution of the display (High or Low) and the number of bitplanes used in each test. The vertical axis of the graph shows the number of seconds required to execute the test program (written in C), which simply counts to a million. You can clearly see that on a machine with no fast RAM, graphics modes significantly affect CPU performance, not just graphics rendering speed.

Method 3: Use small palettes

The two techniques discussed above relate more or less to responsiveness rather than computing performance. In some cases, by contrast, the choices you make concerning horizontal screen resolution and the number of colors in a screen's palette can have a marked effect on performance. This rather curious fact, which is a result of the Amiga's hardware design, is quite clearly explained in the *Hardware Reference Manual*. Here we're interested in effects rather than causes, and they can be summarized very simply:

- Displaying a low-resolution screen of 32 or more colors, or a high-resolution screen of 8 or more colors, exacts a performance penalty.
- The penalty is most severe in the case of a high-resolution screen of 16 colors. Other displays cause at worst a moderate slowdown.
- There is *no penalty* except when the CPU attempts to access 'chip' memory - the memory available to the Amiga's custom chips. The effect is therefore much more severe on an Amiga 500 or Amiga 1000 with no memory expansion, for such a machine has *only* chip memory.

You can get a rough quantitative idea of the effect from the chart on the previous page, which was obtained by running a test program written in C on an Amiga 1000 with no expansion memory. The program is very simple: it opens a screen, counts to one million, and closes the screen, then prints the time consumed in the counting loop. The only difference between successive runs was in the screen resolution and palette used. Low-resolution screens of 4, 5 and 6 bit-planes (16, 32 and 64 colors) and high-resolution screens of 2, 3 and 4 bit-planes (4, 8 and 16 colors) were tested. The worst case (high resolution, 4 bit-planes) ran more than twice as slowly as the best cases. Note that the counting loop did not involve any display: the timing differences resulted entirely from changes in the effective speed of the CPU itself.

When display is involved, of course, responsiveness is also affected by the resolution and number of colors being used. Rendering a horizontal line across the full width of the screen, for example, is much faster on a low-resolution, one bit-plane screen, in which 320 pixels must be drawn, than on a high-resolution, four bit-plane screen, in which 2560 pixels must be drawn.

In programs that offer you a choice of screen formats, you can apply your knowledge of these effects by using the smallest palette consistent with the other requirements of the application, and low resolution rather than high resolution if possible. And again, if you are writing a program in which it is reasonable to offer a choice of formats, it is very good practice to do so.

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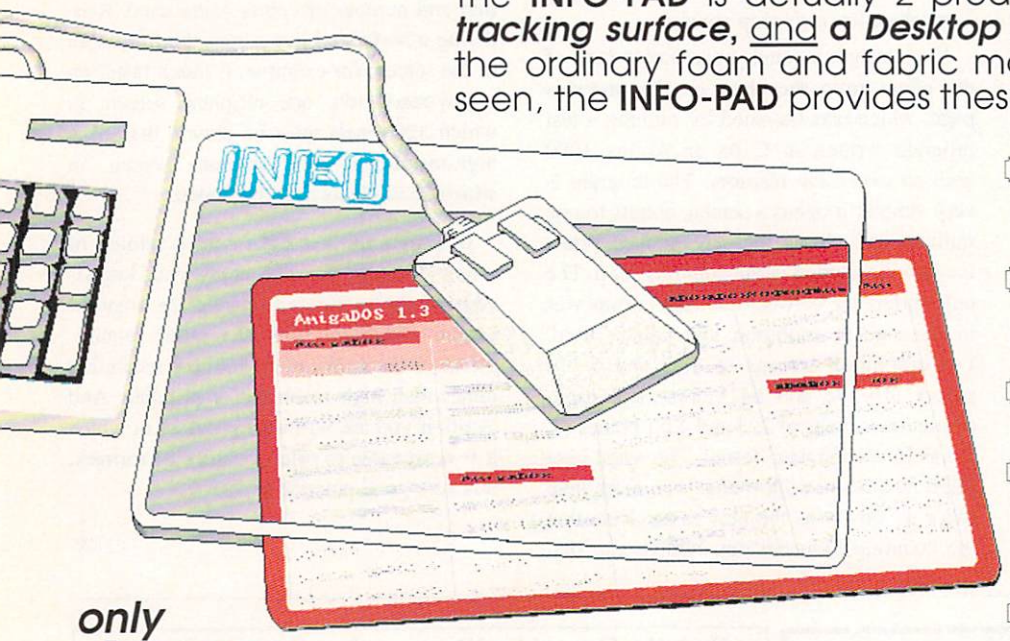

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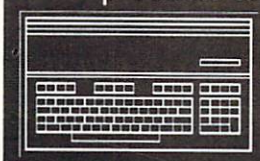

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FD16: Strategy Games - Includes Diplomacy and Empros, both great conquer and rule multiplayer games similar in concept to Simcity and Populas. Also includes blackbox, hearts, and others.

FD17: Educational Games - This disk includes several games for the younger memebers including geography, math, science, and word games, also includes Wheel of Fortune.

FD20: Tactical Games - MechForce(3.65): A game that simulates combat between two or more giant, robot-like machines. Simple words can't begin to give you the feel of piloting a 30 - 40 foot tall, fire breathing, earth shaking colossus that obeys your every whim. This game is the full featured update to BattleForce(3.0) on FD5.

FD22: Arcade Games - This disk has MoonBase - The best lunar lander game we have seen in a long time, very challenging and addicting. Also BoingGame - a maze type, donkey kong type game.

FD24:Strategy Games and Others - Includes Dicey, a yathzee type clone, MM a master mind type clone, Flipper an othello type clone, China an great implementation of Shangi, CircutWars a challenging game based on electronics, and Etrain a computer based model train set construction set for the enthusiast.

FD25:Tactical Games - Empire (133w)Empire is a rich simulation of international politics, economics and war, which is played over a period of a few of months by 2 or more people. Players can run their countries from the normal Amiga keyboard, or via a modem at 300 to 2400 baud.

FD26:Arcade Games - Marble_slide, truly this is a commercial quality game. Similar to a Lucas game named PipeDreams, excellent playablitiy and entertainment, Mutants , a small version of the arcade game of the same name, also SuperBreakout a pong/arknoids type game.

FD27: Arcade Games - This disk is loaded with some great games. Includes, Raceorama a great racing car game with ten different courses, MiniBlast a helicopter gunship type clone, Shark in the same class as froger.

FD28: Games! - This disk contains several great games including, DripGame - Sort of belongs to the PacMan type clone category but not exactly. This is truly a new and great original gaming idea. Very addicting, excellent playability, highly recommended. Pyramid - a Q-Bert type clone. Also, KingOil - a challenging board game were you are the leader of a wild cat oil team. Object - try and become another Exxon.

WB4:Telecommumnication - This disk contains several excellent pd communication programs designed to get you on line quickly and easily. Access (1.42) - A very nice ANSI term program based on Comm v1.34, but with the addition of transfer protocols, Comm (1.34) - Last version of one of the best public domain communications programs ever made on the Amiga, Handshake (2.12a) Handshake is a Full featured VT52/100/102/220 terminal emulator, and JRComm (0.94a) another great com program.

WB5 - Fonts #1- Several fonts (35) for the Amiga, also included are five PageStream fonts,and ShowFont - a font display program.

WB10:Virus Killers - The latest and best VirusX(4.0), Kv(2.1), and ZeroVirus(1.3).

WB11: Business - Clerk(4.0), finally a full featured business accounting PD program for the small to medium company. Includes receivables, payables, end of month and much much more.

WB12: Disk Utilities - This great disk is loaded with wonderful utilities for everything including making disk labels, disk cataloging, disk optimizing, disk and file recovery archive and organizing, and all sorts off file minipulation. A real must have!

WB15: Business - This disk contains a spreadsheet, a database, a project/time management program and financial analysis (stocks).

WB16: Business - This disk contains an inventory manager, a loan analysis program, a great calendar/schedular, a rolidex program, and pennywise a good "Cash Book" accounting for home or office.

WB18: Word/Text Processors - This disk contains the best editors that we could find. Includes, WordWright(v6.2) a full featured word processor with mail merge and outlining capacity, Dme(v1.35) a great programers editor with strong macro features, and TexED(v2.8) an enhanced Emacs type editor.

WB20: General Interest - On this disk is, DiskSalv V1.42 a disk recovery program for all Amiga file system, FixDisk V1.0 another file recovery program with features DiskSalv doesn't have, 3DLook a program that gives a 3D appearance to your WorkBench, Clean V1.01 a program to de-fragment memory, Tracer - trace any part of that image.

WB22: Fonts #3 - Several more great fonts. These, like the other font disks work great with Dpaint and WYSIWYG word processors.

WB23: Graphics and Plotting - Plot (20b) a three dimensional mathematical function plotter. Can plot any user defined function, all aspects controllable,, BezSurf2 is a program for producing bezier surfaces of revolution. It produces awesome pictures of objects one could turn on a lathe. Can also map iff image files onto any surface that it can draw. Now compatible with most 3D packages and VScreen makes a virtual screen anywhere. For you DTP people this is a absolute must have, it allows full page editing without redraws!

WB25:Educational - On this disk are two programs that can generate maps of differing types, World Data Base uses the CIA's data base to generate detailed maps of any enter user global coordinate. . Also Paradox a great demonstration of Albert Einstein General Theory of Relativity.

WB26: Disk Utilities #2 - MrBackup, KwickBackup - two well done utilities to help with harddisk and floppy disk backups, FileMast - a binary file editor much like NewZap, Lableprinter - a brand new Disk label printer with some of the most powerful features we have seen to date, each designed to give maximum control over what shows up on your labels.

WB27: Nagel - This disk contains 26 Patrick Nagel pictures of beautiful women.

WB28: Scientific - On this disk is MATLAB or MATrix LABoratory. this provides comprehensive vector and tensor operations.

DD45: AREXX PROGRAMS - This disk contains several useful arexx programs and examples, PopCLI4 - The latest of a must have utility.

DD47: Pascal - This disk contains everything needed to program in pascal. Includes, A68k (1.2) 68000 assembler, Blink linking software and PCQ (1.0) a modest Pascal sub-set compiler.

DD49: C Compiler - contains zc(1.01) fully K&R, zcc(1.0) front end, A68k(1.2) assembler, Blink linker.

DD50: ARexx #2 - a must have set of tutorials on ARexx and several useful examples and utilities for ARexx development.

DD51: Circuit Analysis - Aspice (2.3) A full featured program for electric circuit analysis.

DD54: Compression - This disk is loaded with ALL of the best file compression programs and aids for the Amiga. Many of the programs can be used by the new user. Includes Arc(2.3), Lharc(1.0), Lhwarp(1.03), Pkax(1.0), PowerPacker(2.3a) a must have by all, Zip(1.0), Warp(2.04), and Zoo(2.0). Also IFFcrunch an excelent compression for IFF files.

DD55: ARP - On this disk you will find the complete ArpRel3.0 release including the full user docs, the full Developers guide, and Conman (1.4). ARP is the official AmigaDOS Resource Project (ARP) release 1.3. ARP makes many improvements to AmigaDOS and makes your system easier to use from the CLI.

DD56: UN*X #1 - Several Un*x type programs including Bison (2.0), Byacc(1.0),Gawk and M4.

DD57: Advanced Utilities - Msh - like Cross-dos, copies files to and from MS-DOS, Pal-NTSC - convert any pal program to NTSC and visa versa, IconJ - a new improved IconX clone, KillAgnus - disables 512k of chip ram, Also several utilities that improve your startup-sequence, plus 25 more programs.

DD58: Compression #2 - Tar - a unix type backup/archiver CompTool-cando stack to help with archiving, Convert - convert arc,zoo, and pak files to Lharc, Lharca99c - an intuition based Lharc, Lhunarc - a very fast unarcer, and Text - article on compression algorithms and source.

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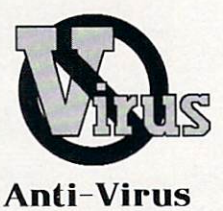

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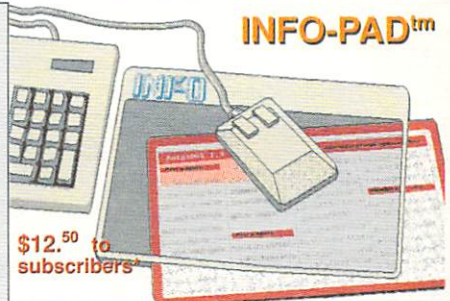

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